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A STUDY AND EVALUATION OF THE NAVY ENLISTED TRAINING PROGRAM

LOWELL WINFIELD WILLIAMS

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A STUDY AND EVALUATION OF THE
NAVY ENLISTED TRAINING PROGRAM

LOWELL WINFIELD WILLIAMS

A STUDY AND EVALUATION
OF THE
NAVY ENLISTED TRAINING PROGRAM

A Thesis

Presented in Partial Fulfillment of the Requirements

for the Degree Master of Science

in Public Administration

TABLE OF CONTENTS

Chapter	Title	Page
I	INTRODUCTION	1
II	NAVAL ENLISTED TRAINING PROGRAM	5
	Recruit Training	8
	Aviation School of Fundamentals	12
	Service Schools, Class A	14
III	PROCUREMENT OF NAVAL PERSONNEL	18
IV	NAVY ENLISTED TRAINING PLAN	25
V	TESTING AND CLASSIFICATION	30
VI	ENLISTED TRAINING POLICIES	50
VII	BASIC OCCUPATIONAL TRAINING	68
VIII	DISCUSSION OF BASIC OCCUPATIONAL TRAINING	86
	Advantages	96
	Disadvantages	114
IX	CONCLUSIONS AND RECOMMENDATIONS	123
	APPENDIX I Recruit Curriculum	132
	APPENDIX II Airman Curriculum	135
	APPENDIX III Proposed Recruit Curriculum	136
	BIBLIOGRAPHY	139

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CHAPTER I

INTRODUCTION

In all branches of the Armed Forces, the subject of training occupies a position of primary importance. During periods of national emergency, every member must be given as thorough an indoctrination as possible prior to being sent into an active area of combat, in the art of warfare and the equipment which he will be required to use in carrying out his duties. To send personnel into combat without training is futile and a complete waste of manpower. Only in case of a last ditch defense of home and homeland should such a procedure be considered. The quantity, and to a great extent, the quality of training given each individual is dependent upon the conditions existing at the time it is given. At all times the maximum amount of training of the best possible quality, commensurate with the time available, must be given each individual.

During peace time, or rather during periods when a state of national emergency does not exist, training becomes a major reason for the existence of the Armed Forces. Each branch must continuously

train its personnel to meet the exigencies of any national emergency that might arise. The personnel thus trained form the nucleus about which the forces that are mobilized to meet the emergency must be organized . Thus it should be apparent that training is of vital importance to all branches of the Armed Forces at all times.

To the Navy, one branch of the Armed Forces, training is of even greater importance than it is to the other branches, since its very existence in daily operations is dependent on the state of training of its officers and men. To operate a single vessel at sea requires men who are thoroughly trained in navigation, steam engines, diesel engines, electricity and electronics, radio and communications, refrigeration, cooking, baking, barbering, plumbing and even laundering. A ship must be a self-sustained unit, a virtual city in itself, in order to exist at sea. Every member of the crew of a ship must be trained to carry out his part of the work necessary to maintain the ship in operation. Since there is a continuous turnover due to expiration of enlistment, advancement in rating and the transfer and receipt of personnel, each individual must be undergoing training continuously. As a result, we find that seamen and firemen are being simultaneously supervised and trained by petty officers, petty officers by Chief Petty Officers, Chief Petty Officers by Warrant Officers; Junior Officers

are being supervised and trained by the senior commissioned Officers, senior commissioned Officers by the Executive Officer, and the Executive Officer by the Commanding Officer. Even the Commanding Officer is under training for higher command. Every individual in an operating unit of the fleet is under a continuous state of training.

As time passes and civilization advances, the equipment, machinery and armament necessary to conduct modern warfare becomes more highly technical. To keep pace with this rapid scientific and technical development, it is necessary that a continuous highly technical training program be carried out for the personnel who must operate the equipment. In the past, with comparatively simple equipment, the greater part of this training could be conducted on-the-job. However, with the extremely complex nature of modern equipment, it is almost imperative that this technical training be given in schools. Formal schools are capable of instructing personnel in the use of the most modern equipment, by the most advanced methods due to the type of instructors used, the availability of equipment for instruction purposes, and the more ideal conditions for instruction without interference from operational requirements.

It is the express purpose of the Navy Enlisted Training Plan to train a sufficient number of men to meet the needs of the operating

units of the fleet and the shore establishment for technical personnel. At the same time, it is necessary to hold the training to the minimum necessary to meet those requirements, due to budgetary limitations established within the Department of Defense, under the current Appropriation Act of Congress. To train more men than are required to meet the needs of the naval service is considered a misuse of government funds which is not tolerated by the government.

The value of a sound, thorough enlisted training program cannot be doubted. It is of vital importance, not only to the naval service, but to the national defense of the United States. However, such a program is costly in both direct and indirect expenses. Any steps which can be taken to improve the quality of training, or decrease the costs of training, in either money, time or manpower, without reducing the quality of instruction, are worthy of study. It is with this idea in view that a study and evaluation of the Navy Enlisted Training Program will be presented.

CHAPTER II

NAVY ENLISTED TRAINING PROGRAM

The Navy Enlisted Training Program is devised to meet the requirements of the Naval Establishment for training of enlisted personnel in the basic fundamentals of their rating or in the rating for which each individual is considered best fitted. It consists of Recruit Training, Airman School Training, Service School Training, Functional Training and "in-service" or "on-the-job" training.

Recruit Training, as stated in the Bureau of Naval Personnel Manual,[1] is designed to instruct all newly enlisted men and women in naval duties and customs in such a manner as to effect a smooth transition from the civilian life, to which they have been accustomed, to the new Navy life to which they must become accustomed.

The Aviation School of Fundamentals is designed to instruct all aviation recruit gratuates (airmen) in the fundamentals of aviation,

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[1] Bureau of Naval Personnel Manual, 1948, Article D-2201, p. 289.

at the preparatory or basic training level.[2]

Service School Training is designed to instruct selected enlisted personnel in the fundamental duties of various ratings through the media of service schools.[3] Class A schools, which will be referred to throughout this discussion, are designed to cover the ground work for general service ratings. The curricula for Class A schools include all of the technical qualifications required for petty officers, third and second class. The length of courses for Class A schools varies from 9 to 44 weeks.[4]

Functional Training Schools are designed for the training of enlisted personnel, as well as officers, in certain specialities.[5] Since it is the intent of this study to consider only enlisted training, these schools will not be included in this discussion.

"In-service" or "on-the-job" training is, as the name implies, training in the duties required of the individual, while that individual is actually at work performing those duties. It is designed to train men to perform the duties assigned them in a more efficient manner,

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[2] Ibid., Article D-2301 (a), p. 289.

[3] Ibid., Article D-2301 (b), p. 290.

[4] Ibid., Article D-2301 (b), p. 290.

[5] Ibid., Article D-2301 (e), p. 290.

and concurrently to train them for the performance of more advanced duties that will be required of them in their next higher rating. Due to the limited space on board a naval vessel, where men are confined to the limits of the ship for long periods of time while the ship is at sea, this type of training is particularly suitable. "In-service" training is therefore employed to the maximum degree in the naval service. The value of this type of training is well recognized, and though it will be referred to in this study, it will not be discussed in detail.

Prior to making a study or evaluation of the training program, as a whole, it is considered desirable to study each of the training schools listed above. A brief description of each of the groups of training schools will be given in the following paragraphs. At the same time, the part played by each group, in the over-all training program will be discussed. Special emphasis will be placed on Recruit Training, Airman School, and the selection of enlisted personnel for Service School Training. It is believed that it is specifically within this area where improvement in the training program and a reduction in the over-all costs in money, time and manpower can be effected without reduction in the quality of the instruction.

RECRUIT TRAINING

Recruit training is given to each new recruit who enters the naval service for the first time. It is considered the most important training that is given in the Navy, because it is during this training that each individual recruit receives his first impressions of the Navy. Such impressions are likely to be lasting ones. Recruit Training is standardized to the greatest extent practicable for all branches of the Armed Forces. The period of time allocated to Recruit Training by the various branches of the Armed Forces varies slightly within each branch. However, the quantity, and to a great extent, the type of training given by each branch is fundamentally similar.

Each individual entering the naval service is required to complete the recruit training unless he has had previous service in another branch of the Armed Forces. This training is considered necessary in order to accomplish the transition from civilian to military life. All recruits must be prepared mentally and physically for usefulness in operating units of the Naval Establishment. The manner in which this preparation is accomplished has a lasting effect, not only upon the men but on the Navy as a whole, for from these men will come the petty officers, warrant officers and many of the commissioned officers of the future. The kind of a start these men get, the attitudes toward

themselves and the Navy that are developed, the fundamental knowledge and understanding with which they must be equipped, are of such importance that recruit training cannot be over emphasized. [6]

The objectives of recruit training, as stated in the publication entitled "Curriculum for Recruit Training", [7] are as follows:

> 1. "To effect a smooth transition from civilian to Navy life.
>
> 2. To develop observance of naval customs and traditions, appreciation of naval history, and obedience to naval discipline based on knowledge and understanding as well as by rule and regulation.
>
> 3. To provide sufficient knowledge and skill in seamanship, ordnance and gunnery, small arms, fire fighting, and other naval subjects, and to attain a degree of physical fitness that will enable the recruit to be of early usefulness to his ship.
>
> 4. To promote high standards of responsibility, conduct, manners and morale.
>
> 5. To develop an understanding of the importance of teamwork, and the responsibility of a Navy man to his shipmates and his ship.
>
> 6. To inculcate an understanding and appreciation of the fundamental workings of democracy, and the Navy's place in our democracy, and the American way of life.
>
> 7. To develop within the individual an understanding of his status in and importance to the Navy -- a sense of be-

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[6] Bureau of Naval Personnel, NAVPERS 90103, Curriculum for Recruit Training, Dec. 1947, p. 1, par. 1.

[7] *Ibid.*, p. 1, par. 4

> longing, of being needed; to develop on the part of the individual a desire for self-improvement and advancement; to promote the dignity and integrity of the individual; to develop pride in self and pride in the Navy."

The curriculum currently in use devotes considerable time and effort to such topics as Citizenship, Naval history, Naval Customs and Courtesies and the Code of Justice recently adopted by Congress for the Armed Forces. This is done in order that each recruit will understand the "whys" behind the Navy way of doing things. It is believed that by this method he will have more of a sense of belonging, of being part of the Navy; and he will be more likely to make a ready adjustment to the Navy life and its demands upon him. While the recruit must learn to conform to the Navy pattern, observe its customs and traditions, and fit into its discipline, within these boundaries he remains an individual. As an individual, he must be trained to think, act, and respond to his own initiative. Therein lies his great value as a fighting man. This value takes on additional meaning when the individual learns to act and think as a member of a team. Recruit training, then, strives to inculcate in the individual a feeling of responsibility to his shipmates -- those officers and men who are the other members of the team of which he is an integral part.[8]

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[8] Ibid., p. 1, par. 2

While considerable emphasis is placed on the recruit indoctrination described above, there is, at the same time, a great amount of time spent on naval subjects. It has always been, and is now, the primary function of recruit training to prepare men for life at sea. When they report on board a ship they must have a true concept of what life at sea is like, and they must possess certain fundamental knowledge and skills that will enable them to carry out their assignments aboard ship. Fundamentals of seamanship, ordnance and gunnery, fire fighting, small arms, physical fitness, swimming, and sea survival are all important parts of the training of recruits.[9]

The standard over-all length of Recruit Training is fourteen weeks. Of these, ten weeks are devoted to the regular training of recruits; one week, or its equivalent, to services (mess cooking, work details, watches, etc.); two weeks to recruit leave; and one week to the retraining period and processing out. At the present time, due to the Korean crisis, the leave period and the retraining period have been eliminated. Thus, the current over-all length of Recruit Training is eleven weeks, one of which is devoted to services.[10]

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[9] Ibid., p. 1, par. 3

[10] Ibid., p. 1, par. 4

The current curriculum given in Recruit Training is included as Part I of the Appendix.

AVIATION SCHOOL OF FUNDAMENTALS

or

AIRMAN SCHOOL

The Aviation School of Fundamentals, frequently called the Airman School, is a preparatory school. Although it is included among the Service Schools,[11] it is in reality an advanced Recruit Training School for graduate recruits who have been selected for naval aviation duty. It is designed to train newly graduated recruits and non-rated personnel in the basic fundamentals of naval aviation. It prepares personnel for technical aviation training in aviation Class A Schools. It also furnishes an opportunity for additional classification tests along with close observation in actual shop work. The selection of personnel for aviation technical training is, as a result, much more thorough than in Recruit Training.

The Airman School is eight weeks in length, during which time a total of 320 hours of actual instruction are given each Airman. The

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[11] Op. Cit., Article D-2301 (a), p. 289.

current policy of the Navy is that each individual selected for aviation duties is required to complete the Airman School, and the aviation technical school, Class A, for which he is considered best fitted.

The objective of this school, as stated in the Curriculum Outline for Airman School [12], is as follows:

> "To provide non-rated naval personnel with,
>
> (1) knowledge and skills basic to naval aviation in order to prepare trainees for entrance to Class "A" Schools;
>
> (2) information and practical factors necessary to complete the qualifications for Airmen;
>
> (3) general knowledge of each aviation rate in order that they may choose a rate for which they are interested and for which they are qualified; and
>
> (4) proper counselling and assignment to Class "A" Schools, in accordance with needs of the Navy and the ability and adaptability of the individual."

In order to complete the above objectives, the trainees must:[13]

> "(1) Be familiar with basic Mathematics.
> (2) Be familiar with basic Physics.
> (3) Be familiar with basic Layout and Blueprint reading.
> (4) Be familiar with the use of common hand tools.
> (5) Be familiar with the basic practices of Aircraft Fire Fighting.

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[12] Chief, Naval Air Technical Training Command Letter, Serial 3305, Enclosure, (A), 25 July 1949, p. 2.

[13] *Ibid.*, p. 3

(6) Be familiar with survival procedures and use of survival equipment.

(7) Have a general knowledge of aircraft in order to safely perform duties that are normally expected of Airmen.

(8) Have a general knowledge of the duties of each aviation rate.

(9) Have a general knowledge of the equipment and use of equipment in each aviation rate.

(10) Check out in all Practical Factors for Airmen."

The current Curriculum for the Airman School,[14] is included as Part II of the Appendix.

SERVICE SCHOOLS

CLASS A

Service Schools, Class A, are designed to convey to those assigned to them the groundwork for general service ratings. The curricula for these schools include all of the technical qualifications that are required for second and third class petty officers. Initially, Service Schools were established for the few highly technical ratings and skills which were considered beyond the capabilities of on-the-job training. Enlisted men were selected from among those who had been

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[14] Ibid., pp. 2-7.

in the type of work covered by the school, on board ship for a period of at least one year and had demonstrated their aptitude sufficiently to warrant school training. The only requirements of candidates for such schools were one year minimum service, a clean record and the recommendation of the Commanding Officer.

If an enlisted man wanted to make the service his career it was highly advantageous for him to attend the service school appropriate to his rating. Prior to World War II, the quotas for service schools were very low due to limited appropriations. As a result, few people were sent to service schools. At the same time, and for the same reason, promotions in the naval service were very slow.

With the rapid expansion of the Navy in 1941-42, it was recognized that it would be an absolute necessity that a greatly increased number of men be trained in schools to meet the technical requirements of the operating units. Time was not available on board ship to conduct on-the-job training. So Service schools were used to the maximum extent during this period, and throughout the remaining years of World War II.

During the post-war demobilization period, service school training continued its important role. The authorized enlistments, for only two year periods, the industrial conditions in civil life and

the benefits of the GI Bill of Rights contributed toward creating a situation which brought about a continuous exodus of personnel from the Navy. Such a tremendous turnover made the maintenance of an operating fleet a virtual impossibility. Operating units of the fleet must have a high percentage of trained technical personnel. The technical equipment of the modern combatant vessel is such that a high degree of technical know-how is requisite for its maintenance and operation. The extremely high temperatures of the super-heated steam used in the boiler plant, the high voltages of the electronics equipment, combined with the large quantities of high explosives carried on board the modern combatant ship make it imperative that trained men be in charge of each operation. To send raw recruits to the forces afloat, to carry on these precarious and extremely dangerous activities would be criminal. Still the ships had to be operated. National interests abroad had to be protected. The nation demanded that the Navy maintain the fleet in operation.

The only feasible answer to the problem thus created was to train every available recruit who met the minimum intelligence requirements in a service school immediately on completion of recruit training. This was an extremely costly procedure since, with the authorized two year enlistment, it meant that approximately one half of the enlist-

ment of each individual was spent in school, in return for which the Navy received little or no service.

Whereas there were Service Schools, for only a few ratings prior to the war, now such schools are available for all but a very few ratings in the naval service. The requirements for entrance to these schools vary according to the individual rating. The Bureau of Naval Personnel establishes the minimum requirements and disseminates the information to the using agencies by circular letter. The qualifications of individual recruits are determined by batteries of tests. Each new recruit is given a series of tests to determine his aptitude for specific naval jobs. The testing, interviewing, classification and selection of recruits for Service Schools, will be discussed in Chapter V.

CHAPTER III

PROCUREMENT OF PERSONNEL

In order that a comprehensive knowledge of the necessity for an enlisted training program may be better understood, it is considered desirable to know how enlisted men and women are recruited into the naval service. This chapter will therefore be devoted to a discussion of the procurement of naval enlisted personnel.

The problem of procurement of personnel is of vital importance to every organization, since each position in an organization must be filled at all times by persons who are capable of performing its functions efficiently. As time passes, individuals age, advance in position, retire, change to other positions or leave the organization for one reason or another, so that replacements are a continuous necessity. At the same time an organization may grown, so that increasing numbers of persons are required to perform the increasing number of functions.

The armed forces are particularly affected by the problem of replacement since all but officer members are enlisted for limited periods

of time. The turnover within the naval service is about twenty per cent per year, dependent on the minimum authorized period of enlistment. The problem of procurement is less accute in the Navy than in the other services, because the Navy is still able to rely almost entirely on voluntary enlistment. Currently all Navy recruits are volunteers, even though they may be influenced to a great extent by the Selective Service Act. However, the problem is continuously in existence and must be constantly studied so that timely and proper action may be taken to meet any situation that may arise.

The factors which affect the procurement problem in the naval service include several which are difficult to forecast with any degree of accuracy, such as the current strength authorized by Act of Congress, and the financial limitations established by current appropriations. Other factors of considerable importance are the international situation, the national economic situation, and the industrial situation. Nearly every element which affects the normal living conditions of the American people is reflected in the procurement problem of the naval service.

In planning and conducting the recruiting program for enlisted personnel in the naval service, the Bureau of Naval Personnel establishes the governing policies. These policies are issued to the recruiting offices as recruiting directives. The number of persons to be pro-

cured each month is determined by the personnel service ceiling established by the Department of Defense, within the budget assigned to the Navy.

Special recruiting and training programs may be initiated to meet special situations. Thus, the High School Graduate program was developed in 1948 to increase the incentive of graduates of the secondary school system to enter the naval service. Persons enlisting under this program were promised formal school training in the service school of their choice, on completion of recruit training. This program proved highly advantageous to the accomplishment of the mission of the recruiting officers in the field, in that it gave them excellent selling points during the period of poor recruiting. It also proved beneficial to the Navy, in that it not only improved the quality of the new recruits, but it served as an excellent entree into the secondary school systems throughout the nation in order to promote the enlistment of high school graduates into the naval service.

The Electronics Recruiting and Training Program was developed in 1947, in a similar manner, to meet the urgent need of the Navy for men who could be effectively trained in the field of electronics. Those who enlisted under this program, were required to meet special qualifications, and were promised technical training in the field of elec-

tronics. As a direct result of this program, sufficient recruits were enlisted in the Navy to meet the over-all needs for persons who were capable of being trained in the electronics field. It is doubtful that this result could have been attained in any other manner. Hence, this special procurement program for enlisting electronics personnel may be regarded as highly successful.

In a like manner, the Airman Recruiting Program was developed in 1948. This program was designed to meet the Navy's requirements for recruits who were able to meet rigid physical and mental specifications, and also to appeal to individuals who wanted to join the Navy for aviation duty. Many young men refused to enlist unless they could get into naval aviation. They preferred service in the Navy but would enlist in the Air Force to get duty in aviation, if the Navy was unwilling to promise them such duty. While this resulted in direct competition with the Air Force, it was considered necessary in order to get qualified recruits for training in naval aviation. Individuals who enlisted and were selected under this program were promised and were given technical training and duty in naval aviation.

Other similar types of recruiting and training programs have been devised from time to time, such as for the WAVES, the SEABEES, the Hospital Corps, etc. Each was designed to fill a certain need. In

each case special requirements were established, and certain commitments were made by the Navy, to those enlisting under each program. All such programs were conducted within overall enlistment limitations and in accordance with the Enlisted Training Plan. In fact, most of the special programs were authorized primarily to meet the needs of the Training Plan, which will be described in Chapter IV of this study.

The Navy, as well as the other branches of the Armed Forces of the United States, has recognized the importance of the proper induction of new personnel and long ago adopted the principle of Recruit Training, to induct each new recruit into the naval service. Every effort is expended to effect a smooth transition of the recruit from civilian life to the military life of the naval service. It is of vital importance to the Navy and to each new recruit that this training be the best pracitcable. Business and industry have in recent years adopted "vestibule training"[1] which is a similar type of training, though on a much smaller scale. It has been found to be most profitable from the standpoint of morale, and to produce an ultimate increase in the production efficiency of the individual so trained.

Since each new recruit must be given recruit training, which

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[1] Jucius, Michael J., Personnel Management. Chicago: Richard D. Irwin, Inc., 1947, 696pp. p. 246-247.

is normally 14 weeks in length, this training represents an appreciable proportion of the training operations of the overall naval service. If the authorized strength of the Navy is 350,000, as it was until the recent Korean affair started, and if the minimum period of enlistment is three years, as was the case until 1949, with an average re-enlistment rate of 35%, the number of recruits to be trained annually is approximately 75,000. If the authorized strength is increased to 500,000, which it is at present, and the minimum enlistment is four years, as is currently the case, then the recruitment must be, not only the 75,000 required as annual replacement, but must include the 150,000 additional recruits, to bring the Navy up to its authorized strength.

With such an increase in strength and the resultant augmented rate of recruiting, the program of recruit training imposes a serious burden upon the Training Command. The present physical facilities of the Recruit Training Centers are such that the maximum total capacity is limited to approximately 30,000. On the basis of the present length of recruit training, this means that less than 10,000 recruits can be enlisted each month and a maximum of 120,000 can be trained each year. This, in turn, means that the procurement quota cannot be met unless additional facilities are made available for recruit training, which represents a considerable investment of funds and manpower,

or unless the length of recruit training is reduced. Under such conditions, anything that can help to overcome the situation, without reducing the level of the present training, should be a valuable asset and as such, worthy of study.

CHAPTER IV

NAVY ENLISTED TRAINING PLAN

The procurement of enlisted personnel by a recruiting program, established at the necessary rate to meet the overall Navy requirements, only partially solves the personnel problem. Most recruits are young, inexperienced men who must be trained if they are to become efficient units in a fighting force. The Navy Enlisted Training Plan is geared and planned to meet this need.

While it might be considered highly desirable to train each individual in the naval service thoroughly in the basic Class A school for the rating for which he is best fitted, such a program normally cannot be considered due to the rigid financial limitations imposed on the service. To accomplish such an elaborate training program would be extremely costly and would result in excessive overtraining which cannot be justified under normal circumstances. Not only that, but it would result in a condition of "all Chiefs and No Indians" which is not by any means a desirable situation, since some "Indians" or working hands, are a definite requisite, and the lack of them, a defin-

ite handicap. Therefore, such a situation can not be permitted.

However, this does not mean that the training of some persons should not be conducted in Class A schools. How many should be trained, then, and in what ratings or in what schools should they be trained? To have an efficient working team there must be a definite number of trained men to fill each position on the team, a certain number of substitutes to act as replacements, who must also be trained, and a considerable number of people in training to furnish replacements as the need occurs.

Prior to World War II, the training of enlisted personnel in formalized schools was conducted on a hit-or-miss basis. IF the Navy had a school in operation for a certain rating; IF there were sufficient money available to operate such a school; IF a man were eligible for shore duty; IF the man's Commanding Officer would permit him to go to school; and IF the man wanted to go to that school, there was a possibility that he might get to go, provided funds were available to furnish him transportation. In other words, there was little or no planning in regard to an overall training program and policy in the Navy. Some schools were in operation, and some formalized training was conducted, but to a great extent, most training was conducted "on-the-job". And, while it is not the purpose of this study to detract from the value of "on-the-job" training, since this type of

training is considered of the highest possible caliber, it must be recognized that school training is almost an absolute necessity to meet the operating and maintenance requirements of much of the equipment currently in use in the naval service. To meet these requirements, the school training must be planned and scheduled, and not left to the desires of the individual or to chance.

To meet these needs, the Navy Enlisted Training Plan[1] was developed and placed in operation in July 1948. At the time of its adoption, it was called the Three Year Training Plan, in that it was based originally on the criterion of bringing the Navy up to one hundred percent strength in trained personnel during the ensuing three years after it was placed in effect. However, the plan is such that it can be changed to meet the variable needs of the service as determined by a continuous evaluation of the progress being made in the training program. The rate of training in any one rating can be advanced or retarded as is considered necessary to meet future requirements. A predetermined quantity of school training can be combined with a certain amount of on-the-job training, and either quantity varied dependent on the exigency of the situation and the funds available for formalized school training.

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[1] Bureau of Naval Personnel, The Three Year Enlisted Training Plan, April 1948.

To compute the requirements of such a training plan one must know the following factors:

1. Authorized strength of the Navy. (Appropriation Act)
2. The strength of the Navy -- the actual number of persons currently in the naval service in each rating.
3. Total requirements of the Navy -- how many men of each rating are required to fill each billet (job) in the Navy. This is obtained by totaling the complements of all ships and stations in the Naval Establishment.
4. The current rate of attrition from the service in each rating.
5. The length of training in each formalized Navy school.
6. The current attrition rate in each school.
7. The percentage of men that can be trained in each rating by on-the-job training.

By subtracting the strength of any one rating from the over-all requirement of the Navy in that rating, based on the authorized strength of the Navy, the current shortage in that rating is obtained. By applying the attrition rate to the current strength, the number to be lost by attrition from the Navy, in that rating, can be obtained for any period of time. The summation of the current shortage and the number to be lost by attrition give the number to be trained in that rating within any specified period of time. The number of individuals that can be trained on-the-job in that rating within the specified period of time can then be subtracted from the total number to be trained. The remainder will be the number of individuals to be trained in formal schools. Knowing the length of each course of instruction, the capacity of the schools,

the rate of attrition in the course and the number to be trained in a specified period of time, it is then easy to compute the frequency of convening and the number of students to be ordered to each class.

By use of the above training plan it is possible to maintain a sufficient number of trained men in the Navy to fill every job which requires trained personnel. When properly and efficiently controlled, this plan is most effective in producing the desired results without overtraining. However, in conducting such a training program the question arises, "Who shall be trained?"[2] How should individuals be selected? How can we be certain that we train the right men for the right job? How can we be certain that we place enlisted men and women in the jobs for which they are best fitted and have the best probability of successful performance? To make the training plan most effective those questions must be answered and the problem solved in the best and most practicable manner.

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[2] L. W. Warner and others, Who Shall Be Educated? (New York and London; Harper & Bros., 1944), pp.141-173.

CHAPTER V

TESTING AND CLASSIFICATION

After the recruitment or procurement of enlisted personnel, the basic steps, for processing them through the training program, center on the function of testing and classification. This function is considered vital to the success of the Navy Enlisted Training Program. Therefore it is considered necessary to devote this chapter to the discussion of Testing and Classification of enlisted men and women.

In the past, individuals enlisting in the Navy for the first time received only a very short period of training at the various Receiving Stations and Recruit Training Centers. Such training was devised to facilitate a rapid transition of the new recruit from the normal routines of civilian life to the more rigid routine of military life in the Navy. This training consisted mainly of physical drills, with and without arms; the elements of seamanship; personal hygiene; care of clothing and similar items of instruction. A major portion of the training was directed toward getting the recruit to recognize an order when given, and to obey that order promptly and smartly,

without question.

On completion of the basic training, the recruit was ordered to duty in an operating unit of the fleet. His normal duties consisted of performing routine jobs on board ship such as swabbing and holystoning the decks, polishing bright work, handling stores and shoveling coal. Sufficient on-the-job training was given each individual to permit him to perform the tasks assigned him in a satisfactory manner. But little or no positive effort was made to place each person in the type of work for which he was best fitted or in which he was most interested.

If any individual demonstrated sufficient interest in learning some special type of work, other than that to which he was assigned, a helping hand normally was given him , provided he carried out his assigned duties in a proficient manner. Thus if a fireman, who stood his fireroom watches well and kept his cleaning station in good condition , was noticed spending his off-duty hours in the radio room and practicing on a radio key whenever he had an opportunity to do so, he would undoubtedly be given a chance to try for advancement in a radio rating when a relief became available for him in the fireroom. But as a whole, assignment to duties, on board ship or in any other operating unit of the fleet, was left to chance and was made according to the vacancies that existed in the organization at any given time.

Once assigned to a job, there was little chance for an individual to change to another job unless an immediate relief was available. No special effort was made to place a person in the job or type of work for which he was best fitted or even one that he liked. He might be given an opportunity to express a desire for work in the engine room or in the deck force when he first reported on board. If a vacancy existed in the work for which he expressed a desire, he might be assigned to the general area of work he requested. However, such assignment depended to a great extent on the influence of the various ship's officers who were in need of men at that time. The actual area or department of the ship to which the new man was assigned was according to need, which as often as not was not in accordance with his expressed desire.

By virtue of this haphazard method of assignment to duty, a man who possessed the potential requirements for a highly technical rating, such as Fire Controlman, might get his first chance for advancement to petty officer rating in the Gunner's Mate rate, a much less technical rating, because that was the only open rating at the time when he became eligible for advancement. This individual may have been of such high intelligence and ability that he could have excelled in any rating for which he applied himself. However,

once he became a Gunner's Mate, there was but a single channel of advancement to higher rating; the odds against changing his rating were almost insurmountable. Although this individual undoubtedly made a good Gunner's Mate, he probably would have made a much better Fire Controlman. Had he been able to direct his efforts in that direction, he would have been much more satisfied with himself and his work. In this case he might have accepted the naval service as a career. He possibly would have been able to attain commissioned rank during the war period and to fulfill the urgent service needs of an experienced Gunnery Officer on a combatant ship of the Navy efficiently. The Navy, in this manner, lost an excellent man, by not being able to recognize his potential qualities.

While the case described above is purely hypothetical, it could undoubtedly be supported by thousands of cases of misplaced persons if studies were made of case histories of the past war. The misplacement and improper utilization of personnel is, and has been, common to all branches of the Armed Forces, as well as to most industrial and business enterprises. It was most prevalent up to the time of the first world war. It continued to exist throughout the second world war, and probably will continue to be a serious problem for many years in the future.

That some persons have been able to find their proper niche in the service, industry or in business, is to a great extent accidental. That other persons have been unable to find the proper road to success is also accidental, or may be so, in that they may have happened to get started in a type of work for which they were not fitted. It is, to some extent, futile to speculate as to whether or not a person who has been successful in one type of work might have been more successful in another, or whether a person who has failed in one type of work could have succeeded in another for which he was more fitted. Nothing can be proved because the clock can never be turned back to permit such an experiment. However, the probabilities are very high that it would be true in many cases.

In industry or business, a worker who fails on the job can be fired or dismissed and another person hired to take his place. Action of this type is common in industry and business, even though such high labor turnover is costly because each new worker must be trained to perform the duties of his job and his production is small during this training period. Such a procedure is condoned in industry as an effort to maintain or increase efficiency. However, in a tight labor market such as that which occurs during a national emergency, when industry, as well as the armed forces, is mobilized, each person assumes greater importance. It then becomes of vital

importance to obtain the maximum production from each individual. To accomplish this, it is highly desirable to take full advantage of the potentialities of each individual and place him in the position for which he is best fitted. Every effort must be expended to place the right man in training for, or working in, the right job.

In the naval service the situation is similar, but to some extent more serious. Those individuals, who are placed in jobs for which they are not adapted, cannot be discharged. They are under contract of service for the period of time for which they have enlisted. Thus , if they are misplaced, the Navy has to suffer with them, and they with the Navy, for the full period of enlistment. Such individuals frequently become serious disciplinary problems and are the source of considerable trouble to the service. Upon completion of their enlistments, they leave the service. The Navy is glad to get rid of them and they are glad to get out of the Navy. This represents a considerable loss to the Navy and to the men. The Navy suffers appreciably by the poor publicity given by such dissatisfied people. By this publicity, a feeling is created that there is no chance for advancement or promotion in the Navy; that the Navy fails to live up to its promise to teach each individual a trade, and that the discipline in the naval service is harsh and unfair. Yet at

the same time, many other enlisted men who luckily have been placed in jobs for which they are adapted, or to which they have adapted themselves, are happy and satisfied in the service. They learn a trade, they are promoted as they become eligible, and they never present a disciplinary problem.

At the start of the first world war, it became apparent that the proper utilization of personnel in the Army was a serious problem which had to be met and coped with. This realization resulted in the development of the Army Alpha Intelligence Test, which could be given all recruits to determine their relative general intelligence. Placement was to be made on the basis of scores obtained on this test. The test was given to all persons entering the Army for the first time and the results were recorded. However, the exigencies of the situation did not permit utilization of these scores to any great extent in the placement of personnel.

An attempt was made to test candidates for training as airplane pilots[1], in an effort to predict whether or not they would make good pilots. But, the subjects of these tests were sent overseas, as full-fledged pilots, before the results of the tests were

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[1] H. E. Burtt, Principles of Employment Psychology, (Rev .; New York: Harper, 1942), pp. 59-60.

compiled, and data were not obtained on the combat efficiency of the subjects, after they started flying in active service in order to compare their success with the test scores. As a result, no reliable statistics were collected to validate the tests.

Nevertheless, the seed of aptitude testing, as a basis for the selection and placement of personnel was sown; the data, obtained from the Army Alpha Tests given to millions of Army personnel, were made available to statisticians who were able to evaluate them properly. Considerable information was obtained from these statistics which validated the Army Alpha Test as a reliable instrument for measuring the general intelligence of individuals. As a result, the Army Alpha Test received national recognition as a valuable aid and predictor for many jobs throughout the country. After the war, the Army dropped its interest in the testing and selection procedures to a great extent. Industry, however, adopted it at this stage, and continued to develop the principle along industrial lines.

The Navy did not adopt the Army Alpha Test at its inception, because it was not faced with the same expansion problem, as was the Army and did not encounter the serious problem of manpower utilization to the same degree. However, recognition of the existence of such a problem in the Navy was forthcoming. The Navy adopted what it considered an improved version of the Alpha Test, which was called

the General Classification Test. This test was given to each person who entered the Navy for the first time. The result of the test was entered in the individual's service record as the GCT of that individual. Its use, however, was limited mainly to that of screening out the illiterate. It was not used to any great extent in the selection, or placement of personnel. There was no classification system in existence at that time and it was not the policy of the Navy to select personnel for further schooling at the level of recruit training.

With the start of world war II, the nation found itself up against a crisis which was far greater than anything it had had to face before. The manpower situation was acute. Industry, as well as each branch of the Armed Forces, required the service of every available man and a vastly increased number of women. Individuals with all levels of intelligence and all types of educational background, from all the various walks of life had to be utilized.

The Navy was most fortunate during the greater part of the second world war in that it was able, to a large degree, to select its officers and enlisted personnel from volunteers, who were required to meet minimum entrance requirements. This condition may not prevail in future national emergencies. Because of this situation, it was possible to maintain the general level of intelligence of naval personnel

at a fairly high level. Of course, this advantage was offset to some degree, by the greatly increased complexity of the equipment with which these persons were required to work. The extremely complex equipment of the modern Navy called for highly skilled technicians to operate and maintain it. This necessitated a thorough training program and trainees of a level of intelligence which would permit them to absorb the training. The vast expansion and rapid growth of the Navy during the intial stages of the war, and continuing throughout the war, created a tremendous training problem. To meet the demands of this program, it was obvious that a high degree of efficiency in screening, selection, training and utilization of personnel had to be attained if success were to be achieved.

To develop a process by which the demands of this program could be accomplished, several psychometrists and psychologists were called upon. These specialists were assigned the mission of developing and evaluating various types of aptitude tests for the screening of volunteers. It was hoped that by use of such tests, men and women who were entering the Navy for the first time, could be analyzed and classified as to potential abilities. On the basis of these tests it was hoped that recruits could be placed in the type of work for which they were best fitted, or in which the chances were greatest for them

to be able to perform most efficiently. It was planned to use these tests as predictors. This represented a distinct effort on the part of the Navy to obtain the maximum utilization of available manpower. As a result of these efforts, special tests were developed to measure clerical aptitude, mechanical aptitude, mechanical (electrical) aptitude, aptitude for radio code work and other special aptitudes.

The following information concerning the classification of enlisted personnel is quoted from "Personnel Research and Test Development in the Bureau of Naval Personnel", edited by Lt. Comdr. Dewey B. Stuitt, USNR:

> "CLASSIFICATION AT RECRUIT TRAINING COMMANDS. All personnel procured through Selective Service or recruit ing stations were sent to recruit training commands (prior to 1944 Naval Training Stations) for recruit training and for classification. Each classification office was under the direction of a classification officer, and all recruits were given a battery of classification tests and were interviewed by classification interviewers. The basic functions of classification in recruit training were: (1) To determine and record on standard forms, the aptitudes, skills and abilities that would indicate the type of naval duty for which each recruit was best fitted; (2) to recommend each recruit for the type of training or duty for which he was best qualified; and (3) to effect the assignment of each recruit to that type of training or duty for which he was best fitted by matching the man's qualifications with the Navy's needs as reflected in quotas issued by the Bureau of Naval Personnel.
>
> These functions were carried out in accordance with the best available personnel techniques and methods. All recruits were first informed about available training schools and the duties of naval ratings by means of carefully planned lectures, films, and pamphlets. They were then given the Basic Test

Battery for enlisted personnel.

These tests included the following: General Classification Test, Reading Test, Arithmetical Reasoning Test, Mechanical Aptitude Test, Mechanical Knowledge Test (Mechanical), Mechanical Aptitude Test, (Electrical), Clerical Aptitude Test, Spelling Test, Radio Code Test.

The tests were administered under conditions as ideal as was possible in view of space limitations, and were scored, for the most part, by machine. Test scores were then checked and recorded by machine on each man's Enlisted Personnel Qualifications Card so that when the man appeared for interview, the interviewer had before him a complete picture of the test results. Aptitude testing was an essential feature of recruit classification, providing the most objective basis available for the classification and assignment of the man, particularly since a considerable proportion of inductees were fairly young, so that little opportunity had existed to acquire vocational skills or experience. Since test scores were recorded on the Qualifications Card, they could be used at any subsequent point in the man's naval career as a basis for evaluation and classification.

When recruits possessed previous civilian experience and training closely related to types of work available for them in the naval service, test scores were of a secondary importance except as they indicated that a man was of such a low mental caliber that he could not be expected to learn quickly enough to qualify for the duties of a rating. In order to facilitate the evaluation and recording of the recruit's civilian experience, training, hobbies, and interests, a standard aid-to-the-interview blank was completed by each man prior to the interview. This form gave the recruit an opportunity to list his qualifications and to express his interests in various types of Navy jobs.

In the great majority of cases, it was a combination of a man's test scores, civilian work experience, motivation, previous training, and interests which guided the interviewer to a decision as to what types of duty the recruit was best qualified to perform. Duty recommendations were usually recorded in rather broad terms so that a man would not be too narrowly classified. This was necessary and desirable not only in the man's best interests but also because of variations in quotas from the Bureau of Naval Personnel which required flexibility in detailing.

> To facilitate school assignments, which constituted a major phase of recruit classification, certain basic data from the Enlisted Personnel Qualifications Card were punched into IBM cards for mechanical sorting so that selection could be rapid and accurate. In addition the the man's name, rating and service number, the IBM selection card provided space for punching a civilian occupational code, an evaluation code and a first and second duty choice or recommendation.
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> Roughly speaking, about 40% of all recruits were selected for elementary naval training schools; about 10% were selected for special billets, immediate rating, or commissioning; and the remaining 50% were sent directly to ships or stations for duty as "general detail" hands. An adequate system for classifying this latter group was never fully developed and as a result many men who had useful skills were often not used effectively in their subsequent assignments. If an adequate classification system had been established earlier, it should have been possible to process the "general detail" population as well as the other groups."[2]

The special aptitude tests, as developed initially, were by no means perfect. Because it was necessary to put the tests to almost immediate use, it was impossible to evaluate them fully. In the terms of the psychologist, the validity and reliability could not be determined within the short period of time involved. Perfect results could not be expected under such circumstances. It would have been foolish to assume that as a result of these initial tests each individual entering the Navy could be ideally placed. However, these tests were of definite assistance in the proper placement of personnel, since they were

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[2] Staff, Test and Research Section in cooperation with NDRC Project N-106 and the College Entrance Examination Board, Personnel Research and Test Development in the Bureau of Naval Personnel, ed. by Dewey B. Stuitt, Lt. Comdr. U.S.N.R., (Princeton, New Jersey: Princeton University Press , 1947), pp. 22-23.

better than guess-work or chance.

Had the aptitude tests developed at that time been perfect, it still would have been impossible to have obtained the maximum benefit from them, because there was no system of job classification in existence at that time. The Dictionary of Occupational Titles was just in the process of being developed and the Navy had made no attempt in this direction.[3] Even if there had been a classification system in existence, it is still doubtful that it could have been used adequately because of the lack of machine accounting systems to process the results. Therefore the defense services cannot justly be criticised for their inability to develop a full classification and placement program under which every man and woman could be placed in the job which most nearly matched his capabilities.

These initial aptitude tests were continuously improved. Each new recruit entering the Navy was given a battery of tests including all the various tests which had been developed. By combining the scores of the various tests of each individual and comparing them with the scores of other persons who had successfully completed the various technical schools, and with those who had failed such courses, it was

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[3] Ibid., pp. 434-441.

possible to develop a fairly reliable score for each test which would represent the minimum level at which successful completion of the course at each service school would be probable. Each recruit, who obtained a score in his test battery which was above this minimum score, was considered a potential candidate for the technical training to which that minimum score applied. If a candidate having such potentialities were given that type of technical training, the probability was high that he would be able to complete that type of training successfully. It was mainly in this direction and for this purpose that aptitude tests were used throughout the war and until a job classification system was developed by job analysis in 1948.

Some of the tests developed during the last war have been eliminated. Others are still in existence and, in an improved form, are in current use at the Naval Training Centers.

As stated in "Foundations of Psychology" by Boring, Langfeld and Weld:[4]

> "It has become increasingly evident in recent years that the more we know about individual differences in intelligence, in aptitudes for particular tasks and in the ability to make good judgements in social living, the better able we shall be to train and guide the individual in making the most of his physical and mental equipment.
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> "It is not enough to know the ways in which a single

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[4] E. G. Boring and others, "Foundations of Psychology", (New York: John Wiley and Sons, Inc., 1948), p. 393.

> person differs from others. We must know how in a particular way a number of persons differ with respect to one another. Only then can we properly judge the capacity of any one person relative to that of his fellows. The one reliable method of obtaining this knowledge is by measurement."

The above statement is almost universally recognized as a fundamental psychological principle and forms the basis of aptitude testing.

However, aptitude tests are only tools with which a person may work in an attempt to measure the intangible characteristics of an individual, as well as his innate potentialities. Like a carpenter, who requires certain basic tools such as the hammer, saw, plane and square to perform carp entry work, a personnel counsellor uses certain basic tests in the classification of personnel. And , like the carpenter, who may use additional tools to improve the accuracy of his work, the counsellor may use additional tests to increase the accuracy of his predictions. However, the point of diminishing returns is reached much more rapidly with the work of personnel testing, than it is with the carpenter. The work involved in preparing and validating as well as administering additional tests becomes a tremendous problem. Each new test must be compared in detail with each other test and completely evaluated. The gain in accuracy as a result of such additional tests is frequently of such small magnitude that it fails to compensate for the time required to administer them.

The current policy of the Navy, as stated in the Bureau of Naval Personnel Manual,[5] is to give each new recruit the Applicant Qualification Test (AQT), the General Classification Test (GCT), the Arithmetical Test (ARI), the Clerical Aptitude Test (CLER), and the Mechanical Aptitude Test (MAT). The AQT is a short intelligence test given to the recruit at the recruiting station at the time he applies for enlistment, to determine the mental capacity of the applicant. By use of this test, mentally deficient persons can be eliminated prior to enlistment. The other tests listed above, namely the GCT, ARI, CLER, and MAT, form the basic Navy test battery which is given to each new recruit at the Recruit Training Centers. The scores obtained in these tests are recorded in the service record of each new man and become a permanent part of his record.

Each new recruit is given the basic test battery during the first week of recruit training. He is given a personal interview by classification officers during the fourth week of training.[6] It requires considerable time to administer, grade and record the results of the tests in the individual service records due to the vast number of recruits being processed. Consequently, it is not until the fourth week of

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[5] Bureau of Naval Personnel Manual, 1949, Article C-3206, pp. 98-99.

[6] Ibid., Article C-3207, p. 99.

training that these records normally are available to the classification section for use in the personal interview with the individual. The interview is to secure information on the educational background, work experience, and interest of the individual, to aid in his proper classification.

On the basis of the test scores, and the information secured in the personal interview, each individual is assigned a Navy job classification number or numbers and is recommended for the type of work for which he is considered best fitted and most motivated. The current needs of the service are, of course, given full consideration in this classification process. And while the service requirements are of primary importance, since they are the basis of the Enlisted Training Plan, the classification staff can, and frequently does, place too great an emphasis on meeting assigned quotas. When this occurs, individuals may be improperly classified to the detriment of the Navy, as well as themselves. Extreme care must be taken throughout this process. Youngsters entering the naval service for the first time are easily influenced. They have no definite idea of what they want to do. Their entire motivation may be on the basis of a new friendship they have made with some other new recruit in the barracks, or on the basis of the rating of their company commander, or even of some one from their home town who is already in the Navy. The importance

of proper classification procedures cannot be over-emphasized.

The value of a good testing and classification process is aptly stated by Mosher, Kingley and Stahl: [7]

> "The objectives of a well-designed testing program are synonymous with those of the entire selection process. They are two in number. In the first place, the program is designed to select persons who will be efficient in the particular positions they are assigned at entry. This is the immediate end of recruitment and selection. But there is a second objective which must be kept in view, and one which is often forgotten in the rush to adopt "practical" tests. The process should result also in the selection of employees who possess a capacity for growth and development. This is essential if the personnel agency is to capitalize on the many advantages accompanying the practice of filling higher positons by promotion. It is absolutely indispensable to the development and operation of a career system."

If the scores of an individual on the test battery meet the requirements of technical training as stated in the current training directives, if the individual has expressed a desire for such training and if the classification staff considers him to be good material, based on the results of the personal interview, an individual may be selected for formal school training on completion of his recruit training. Such assignment is dependent upon the needs of the service as indicated in the current Training Plan. It is also dependent upon whether or not

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[7] William E. Mosher, J. Donald Kingsley and O. Glenn Stahl, Public Personnel Administration, (third edition; New York:Harper, 1950.), pp. 96-7.

an opening will exist in the school for which he is recommended, at the time when he will have completed his basic recruit training. If any of the above conditions are not fulfiled , the individual is assigned to "General Detail". If an individual fulfills all of the conditions and basic requirements, but there is no quota available or the technical school for which he is considered qualified is filled to capacity, a notation is placed in the service record of the individual to the effect that he is recommended and qualified for formal school training whenever a quota for such training is available

Regardless of the elaborate testing and classification measures being applied in the naval service today, there is still no absolute assurance that each individual will be properly assigned to duty, since there may be cases where more eligible candidates are available than there are jobs. Or there may be more jobs than there are eligibile candidates. In either case, it then becomes necessary to assign individuals to jobs other than those for which they are considered most suitable. It is therefore still a matter of chance, to some extent, that individuals may be placed in the type of work for which they are best fitted and most highly motivated. The requirement of the naval service must be considered of primary importance, and those requirements must be met.

CHAPTER VI

DISCUSSION OF NAVY TRAINING POLICIES

Prior to World War II, it was the policy of the Navy Department to send all enlisted men to duty in operating units of the fleet for a minimum period of one year, upon completion of the recruit training. After they had demonstrated their ability in actual service they were permitted to go to one of the service schools, provided they were able to meet all the necessary requirements. The requirements for acceptance of an enlisted man for training at a service school included a minimum GCT score (the only test given at that time), a recommendation from his Commanding Officer, a minimum of one year's sea duty, and a minimum of 12 to 18 months of duty remaining in his enlistment upon completion of the service school. Many individuals in the Navy were unable to attend a service school because of their inability to meet one of these requirements. In some cases, where they were eligible in all respects except that of having necessary remaining time in their enlistment after completion of the school, they were unwilling to extend their enlistments because of the uncertainty

of being able to complete the course satisfactorily or because they preferred not to tie themselves down to further commitment to the Navy merely to attend the school.

It is believed that the pre-war requirements for formal service school training were very sound. The single GCT minimum score requirements, though sufficient at that time, since it was the only accurate general intelligence test available, has been supplemented by the requirement of a minimum score for the tests of the aptitude test battery which are appropriate to the course for which the individual is being considered. This is an improvement. The pre-war requirement of a minimum of one year of duty in the operating forces prior to attending a service school is considered highly desirable for general service personnel, in order that the men can become indoctrinated in Navy life and routine and gain a little knowledge of, or a visual acquaintance with, the equipment of naval operating forces, so that the service school training will not be completely theoretical. For aviation, Hospital Corps and Construction Corps enlisted men, this requirement is not of such major importance, since the equipment with which they will have to work in operating units of the fleet is likely to be the same as that used in service schools. The requirement that each candidate for a service school have a minimum of 12 to 18 months remaining service in his current enlistment on completion of the school course, is considered highly desirable,

since this is the primary guarantee that the Navy will obtain some return on the investment which it incurs in training the individual. The amount of that return, and the minimum service required should be dependent on, and in ratio to, the amount of time spent in the training.

During the war years 1941 to 1945, it became obvious that this policy could not be continued. The rigid requirements were too cumbersome. The demands by the fleet and by new vessels being commissioned for trained personnel were so great that changes had to be made in order to meet the situation. The aptitude tests, previously described, were developed, and recruits were selected for service school courses at the training centers, during the recruit training. All recruits who met the minimum requirements for further training, either by test scores, educational background or previous experience in civilian life, were selected for further training in the type of work for which they were best fitted, within the overall needs of the service. This action was considered mandatory, and it was highly successful, in that it met the needs of the fleet, for trained personnel.

At the end of the war, it was the intent of the Navy Department to revert to the pre-war procedures for the selection and training of enlisted personnel. It was not intended that the lessons learned during the war were to be eliminated entirely, by discarding the test, classification

and selection procedures that were developed. It was planned to combine those devices with the pre war procedures, cut back on the training program to meet the needs of the peace time Navy and remain within the stringent budgetary limitations which exist during normal times. It was believed that an extensive service school training program, such as that which had been carried out during the war, was an expensive luxury which the Navy could ill-afford during the post-war period. In order to remain within the reduced budget, it was thought that it would be necessary to close the major portion of all the training establishments and operate the remainder on a greatly curtained basis. The forced cut in personnel, as well as in the budget for training purposes, was severe.

The actual situation that developed during the months which immediately followed the cessation of hostilities was considerably different than had been envisioned. The immediate and complete demobilization, was of such a vast order than a large proportion of the operating units of the naval establishment were forced into an inoperative status by the complete lack of personnel to man them. The situation reached such a critical state at one period that it became necessary to borrow personnel from one ship, in order to get another ship underway one week, and reverse the process the following week.

To overcome this critical situation, the Navy adopted the two

year enlistment program. This program appealed to those who were interested in avoiding the draft and at the same time, in obtaining the benefits of the G I Bill of Rights. Men and women enlisted under such conditions were not interested in the Navy as a career, or even as a partial career. To send them to operating units of the fleet, directly from recruit training, would have been tantamount to an act of sabotage to the Navy and to the men. The fleet operating units desperately needed men, but they needed men who were trained to carry out their duties on board ship as soon as they reported for duty. Neither time nor qualified instructors were available in fleet units to conduct on-the-job training. Therefore the Navy still found itself forced to adopt the policy of selecting and training men at the recruit level. Every new recruit, who fulfilled the minimum test score requirements for the various service schools, was sent directly from recruit training to the service school for which he was qualified and for which the Navy had the greatest need of graduates. The result of this desperate effort was that many recruits were sent to schools to which they had no desire to go. In some cases, individuals were forced to go to school against their will. Misplacement and misclassification were prevalent to a much greater degree than at any time during the tremendous training program conducted during the war. However, this was accepted as a necessary evil.

Having survived the post war demobilization period described above, the Navy was immediately faced with a second period of demobilization when those who had enlisted under the two-year program, left the naval service, on completion of their two year enlistments. In many cases these individuals were released two months early, due to accumulated leave. While this demobilization did not quite reach the severity of the first one, it did reach enormous proportions and produced a crippling effect on the fleet operating units. Thus the Navy was again faced with a serious need for an intensive school training program which had to be undertaken, with reduced funds and with reduced numbers and quality of recruits.

As a result of the various special procurement and training programs and recurring emergencies, the Navy has developed the policy that most service school candidates are selected from the recruit graduates. To meetthe requirements of war, this was mandatory. To meet the post-war demobilization and the second demobilization due to the two year enlistees, such action was continued. And to meet the requirements of the Enlisted Training Plan, it is still being utilized, because by this means, a sufficient number of qualified candidates for training can be assured for each branch of the service for which schools are established. Currently, that is the only manner in which the quotas to the various schools, as provided in the Training Plan , can be filled.

It is still possible for qualified candidates from the fleet to be selected for and sent to service schools under fleet quotas, but this represents an extremely small and secondary source of school candidates.

The pre-war requisite, that service school candidates must have completed a minimum of at least one year of duty with the operating forces , has been completely eliminated. Although this change in policy was necessary to meet the exigencies of war such procedures should only be accepted as an emergency measure. As a permanent policy, for long-range planning, it is believed that the minimum of one year of duty in the operating forces should be reinstated as a mandatory requisite for eligibility for service school training especialy for all general service ratings. For aviation and hospital corps ratings this requirement might be waived, in view of the similarity between training and operating conditions and equipment. But for all general service ratings, waivers of this requirement should not be considered.

This opinion is based on the following factors: (1) the lack of knowledge on the part of the recruit of all the various fields of work in the service, (2) the lack of a clear-cut interest in any definite branch, (3) the changeability of interests of the young recruits, (4) the ease with which recruits can be temporarily motivated, (5) the complete lack of experience in the operating forces of the Navy,

(6) the practical method of learning, and (7) the expensive process of training many individuals who have little or no intent or desire to remain in the Navy, as a career.

An attempt is made, during his indoctrination training at the Recruit Training Centers, to acquaint each recruit with the various fields of work in the Navy. He is given a brief description of each branch of the service and of each rating. He is told in general terms, the type of work involved in each rating and the career possibilities and channels of advancement of that rating. However, this information is given mainly in the form of lectures which have little permanent effect on the recruit. This small bit of information can hardly be considered a sufficient basis on which a young recruit should make a decision which will affect his entire future in the Navy. As stated by M. R. Chauncey,[1] "Mere exposure to a subject is not sufficient in and of itself to provoke a sense of special ability and liking." Yet the careers of many recruits are determined at this level on the basis of the scores of their test battery, the personal interview and the recommendation of the classifier.

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[1] M. R. Chauncey, the Educational and Occupational Preferences of College Seniors (Teachers College Contributions to Education, 1932) No. 533, p. 68.

In sending recruit graduates directly to service schools on completion of recruit training, it is not considered that the maximum value of such training is attained, for the following reasons:

(1) Lack of immediate usefulness: - Recruit graduates, who attend service schools directly from recruit training, are unable to place into immediate useage the material they learn in school. When they complete the service school training, they are normally still apprentices, and as such, they are required to perform the routine duties assigned them in an operating unit. Most of the routine jobs have little or no bearing or relationship to the specialized training they received in the service school. By this lack of immediate useage, the training and knowledge gained in school rapidly becomes lost.

(2) Knowledge without wisdom: While in service schools, graduate recruits receive specialized knowledge and training in the type of work which they are studying, but frequently they are unable to acquire the necessary wisdom of the correct useage of that knowledge and training, due to their complete lack of familiarity with conditions as they actually exist in units of the operating forces. The knowledge and training imparted to them at the schools, as a result, may be wasted to some extent.

(3) Known Purpose or Goal: - For learning to be completely successful , there must be a definite objective. Without this, maximum

learning does not take place. Recruit graduates, as a general rule, lack such a goal. They have not had the opportunity to serve in an operating unit of the fleet and therefore cannot visualize the advantage of the service school training. Hence there is a tendency, under such circumstances, for them to learn only the minimum amount of knowledge that is required to pass the examinations of the course successfully. There is little incentive for them to strive to learn the maximum that is possible.

A survey was recently completed at the Instructor's Training School at the Naval Air Technical Training Center at Memphis, Tenn. of petty officers who were undergoing training to become instructors at that school. One of the questions asked was, "Would you have selected the rating in which you made third class petty officer if you had had rate shop indoctrination in all aviation ratings soon after you enlisted in the Navy?" Of the 184 persons involved in the poll, 47% said "Yes", 35% said "No", 17% did not know and 1% gave no answer. This indicates, as one would suspect, that fewer than 50% have any idea of what field or branch of theservice they want to enter at the time they are given recruit training.

The recruits entering the Navy for the first time have little or no clear cut interest in any one branch of the Navy, and even less in a specific rating, about which they have only the slightest knowledge.

It is seriously doubted that even those that are recruited under one of the special procurement programs described previously, have a clear cut interest in a specific rating. Those enlisting under the Aviation program, are undoubtedly motivated and have a strong desire for work in the aviation branch of the service, but not in any one specific rating within that branch. Those enlisting in the Electronics procurement program, who were promised training in the specific electronics technician rating, (newest program of this type is the Electronics Field Procurement Program started in 1950 which includes all electronic and electrical ratings), are mainly motiviated by the term electronics, rather than the actual electronics technician rating or the work involved with that rating.

In general, individuals enlist in the Navy for one or more of three basis reasons, namely, Trade Training; Travel and Adventure; To Get Away From Home, School, Job or Civil Life. Various other ideas were given as reasons for enlisting in the Navy in a survey conducted in October 1947 by the Field Research Section of the Bureau of Naval Personnel with a sample of 2400 new recruits.[2] However, the basic reason for enlisting, normally, was one of the three stated above,

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[2] Bureau of Naval Personnel, Research Report, Why Men Enlist, 1947.

and behind nearly every statement was the desire of the individual to get away from some situation. Approximately two out of three recruits definitely expressed a desire for trade training, and of this group, many were expressly interested in specific programs such as electronics, hospital corps or musician. Still, by and large, there was an escape factor involved, and the interest in any one specific branch of service was not clear cut.

A more recent survey [3] conducted with a random sample of 125 Airmen, taken from questionaires submitted over a period of two years, from January 1949 to January 1951, after completion of recruit training and while enrolling in the Airman School at the Naval Air Technical Training Center at Memphis, Tenn., produced similar results; 31% desired education; 22% desired to learn a trade; 16% desired employment; 14% desired travel; 11% desired to avoid thedraft; 20% desired a career; others gave various reasons, and in some cases gave two or three reasons, which accounts for more than 100% in the percentage breakdown. From this survey, it is still apparent that about two out of every three recruits enlist to learn a trade, but, in general, the specific trade desired is very vague in their minds.

The average age of the male recruit entering the Navy at the present time is 17.9 years. The average educational level is currently

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[3] Naval Air Technical Training, Reasons for Enlistment in the Navy, (Unpublished letter of 2 - February, 1951)

10.7 years but may vary from 10 to 11.7 years, over a period of time. At this age, and with this educational background, his interests are ver changeable. Today, he may be interested in becoming a Medical Doctor; tomorrow, he may want to become a draftsman; whereas two weeks ago, he may have been intent on becoming some type of engineer. The changeability of vocational interests of men and women is discussed at great lengths by Edward K. Strong, Jr., in "Vocational Interests of Men and Women". He states that with young men of this age (15 to 25), "Increase in liking occupational items is apparently associated with increase in familiarity. It is likely the same holds true to some degree for other items. Changes in interest between 15 and 25 years may, accordingly, be explained in part on the basis of familiarity".[4] The complete lack of familiarity of the new recruit with the Navy and with the specific ratings and the work involved in those ratings, is considered sufficient reason for not definitely committing him to a specific rating, at the recruit level.

There is little doubt that the new recruit can be motivated in almost any direction desired. He is influenced by the recruiting officer under whom he first enlists; by old friends who have previously enlisted in the Navy; by the new friends he makes, enroute to or on first

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[4] E. K. Strong, Jr., Vocational Interests of Men and Women, (Stanford University, Calif: Stanford Univ. Press, 1943) p. 291.

arrival at the Recruit Training Center; by the Company Commander at the Training Center; by the various instructors; and last, but not least, by the person who interviews him during the classification process. Except, in a few unusual cases, the new recruit can be highly motivated in any rating within the naval service with little difficulty. This is primarily due to the entirely new situation with which the recruit is encountered, combined with his overall lack of familiarity and knowledge of the Navy. It is not believed advantageous to the naval service or to the individual recruit to commit a person to a specific rating, under such circumstances, except in the case of national emergency.

As shown by the survey of new recruits, conducted in 1947 by the Field Research Section of the Bureau of Naval Personnel,[5] two out of every three new recruits come from cities of less than 25,000 population. The majority of them have never been away from home and have never seen a sea-going, combatant type ship. They have no idea whatsoever of what makes the wheels go around on a ship of the Navy. They have no concept of what makes a steel vessel float, how it is propelled through the water, how it fights or how it protects itself. Although he is given the maximum indoctrination

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[5] Bureau of Naval Personnel, "Why Men Enlist" (Washington D.C. Field Research Branch, 1943), pp. 1 - 8.

possible in Navy life and routine during his recruit training, he is still almost completely lost when he reports to an operating unit for his first duty, on completion of recruit training. This is true, regardless of the additional training he may be given at a Service School. If given such training, he is still at almost a complete loss when he reports for active duty for the first time. If this duty is on board a ship, he has no idea of how to find his way to the mess hall or the wash room, let alone try to locate the equipment on which he has been trained to work. It takes a considerable period of time for any individual to orient himself on board a naval vessel. It is not a matter of hours or days, but normally a period of months, dependent upon the size of the vessel to which he has been assigned for duty. Thus, the training received at a Service School is to a great extent wasted on thenew recruit. It is believed that, except in case of dire emergency, each recruit graduate should have a minimum period of one year of duty in the operating forces of the Navy, prior to being sent to a Service School, in order that he may become indoctrinated with life in an operating unit of the fleet and have, at least, a visual acquaintance with the equipment with which he will have to work. As stated previously, this is not considered quite as necessary in the case of Hospitalmen, Airmen, and Constructionmen, because of the similarity of training conditions and equipment with that of actual operating conditions. However, it is still considered highly desirable, even

for those ratings.

One of the recognized principles of learning is that of "Whole versus Part Learning".[6] This is based on the premise that better learning takes place when the learner has a knowledge of the relationship of the part he is learning to the whole. If he is studying boilers, for instance, he will learn more if he has had occasion to see boilers in operation on a ship, than if he has only books or pictures to refer to. If he is learning to become a Yeoman, he will learn more if he has had an opportunity to see what a Yeoman actually does in an operating unit of the fleet, than he will from classroom work and lectures. And while training aids are used to a maximum extent in Service Schools to simulate actual operations, they are, at best a poor substitute. Therefore, to send individuals to service schools, immediately upon completion of recruit training, violates one of the basic principles of learning.

The training of enlisted personnel is an expensive process, not only from the financial point of view, but also from the manpower point of view. In time of emergency, the training in a Service School of all eligible personnel at the recruit level, must be accepted. But in time of peace, such a procedure is a luxury which the naval service can ill afford. All formal school training must be given with a view toward

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[6] E. R. Hilgard, Theories of Learning, New York: Appleton - Century - Croft's Inc., 1948) , pp. 242-6.

getting a maximum return on investment to the naval service. The number of individuals that can be trained in such a school is definitely limited by budget and by enlisted personnel ceilings. Under such stringent restrictions, the Navy can only afford to give formal school training to those who show some promise and interest in making the Navy their career. To select and train individuals in formal service schools, immediately on completion of recruit training and before they have had an opportunity to consider the naval service as a career, is considered extremely wasteful. A majority of recruits are open-minded on first enlistment, as to making the naval service a career. They are definitely interested, as shown by the fact that they have enlisted. But they want to find out whether or not they are going to like the work, and the life in the Navy before committing themselves to a Navy career. Until such a time as they have determined their liking for the Navy and have shown some indication of desiring to make the Navy a career it would appear to be a waste of time and money to send them to a service school for formal training.

While statistics are not at present available to support the statement, it is estimated conservatively, that approximately 75% of all the enlisted men and women trained in Service Schools during the five years from 1946 to 1950 left the naval service at the end of their first enlistment. In many cases, with the two-year enlistees, who were sent

directly to a Service School on completion of recruit training, the Navy received less than two months' actual service as a return on its investment. In cases of the three-year enlistees, the actual service received in return was often less than 1 1/2 years. If service in the future could be depended upon in case of emergency, from the individuals trained in this manner, such training might be considered well worth the effort. But in the majority of cases, such future service is not forthcoming. For this reason it is believed that a minimum period of obligated service on completion of Service School training should be mandatory, as well as a minimum period of duty in the operating forces, prior to selection for a school. It is only by these means that the Navy can be assured that it will get some return on its investment.

To avoid the disadvantages that are apparent in the present enlisted training system the following program is proposed:

(1) Alter the present classification system to the extent that recruits will be classified into broad job families, i. e., Rating Groups including similar ratings, to the maximum possible extent on the basis of aptitudes, instead of to a particular rating as is presently done in the case of service school candidates.

(2) Modify basic recruit training to include approximately fifty periods of occupational training in the field of the rating

group for which the recruit is considered best fitted and has the best probability of success.

(3) Send each recruit graduate to duty in an operating unit of the fleet for a minimum period of one year, during which time he can observe the type of work involved in each rating within the rating group for which he was classified and select the one which appears to be most interesting to him.

(4) Make further specialized training in a service school available at the end of one year of on-the-job training and familiarization, and not until then.

A plan for Basic Occupational Training will be presented in the following chapter. If this plan is adopted, it is believed that the present practice of selecting enlisted men and women at the recruit level for immediate training in a service school can be eliminated, and the pre-war minimum service requirements for entrance to a service school can be reinstated. This should result in improved quality of recruit graduates, as well as service school candidates, and more career-minded en listed men and women. It should prove highly desirable and beneficial to the naval service.

CHAPTER VII

BASIC OCCUPATIONAL TRAINING

CONCEPT

Basic Occupational Training, as conceived in this study, is the term applied to training in the fundamentals of a homogeneous group of ratings, i. e. a job family or a group of positions requiring similar skills. The training conducted at the Airman School, the Aviation School of Fundamentals, as established at the Naval Air Technical Training Center, Memphis, Tennessee, is of this nature.

All enlisted recruits would be required to complete this training just as all Airmen currently are required to complete the Airmen School. It could be established as Advanced Recruit Training simply by dividing the present training into two parts, one of which could be called Basic while the second part could be called Advanced. Or it could be termed a Class P (Preparatory) school. However, for the purpose of this study, it would be given during the recruit training period as an integral part of recruit training, and would be on a scale much less extensive than that of a Class P school.

Training in the basic fundamentals of aviation has proved so

so highly successful in the aviation technical training program in recent years, 1946 to 1951, that the completion of Airman School has been established as a mandatory requirement for all aviation enlisted personnel, by the Naval Air Technical Training Command.[1] On the basis of the success of this program, training in the basic fundamentals of all rating groups of the Navy, for general service, as well as for aviation, enlisted personnel, is proposed in this study.

As an illustration of the degree of success of such training it is interesting to compare the attrition rates of the various Navy Service Schools, Class A. For those schools that do not require the satisfactory completion of a school of fundamentals, i. e., the Service Schools for other than aviation ratings, the attrition rate during the fiscal year 1949 was 9.94%. Whereas the attrition rate for the aviation Service Schools, which required the prior satisfactory completion of the Airman School, during the first half of fiscal year 1950 was only 2.63%. The difference in these rates of attrition is 7.31%. Since training in the basic fundamentals is the major distinct variable between the two types of service schools under comparison, this difference can be attributed to that training. If this rate differential is applied to the total

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[1] Naval Air Technical Training Center, Airman Study, (Memphis, Tenn., unpublished, 1950). pp. 1-13.

of approximately 30,000 students who were sent to the general service Class A Schools during the fiscal year 1949, it amounts to 2,193 such students who may have failed to complete the course of instruction because they had not been given training in a school of fundamentals. If a large proportionof these losses can be salvaged by the training given in a school of fundatmentals, then such training must be considered as being well worth the effort.

The decision of the Naval Air Technical Training Command to make the prior satisfactory completion of the Airman School a mandatory requirement for all naval aviation enlisted personnel was undoubtedly predicated on the basis of the highly technical nature of modern aviation equipment, i. e., aircraft structures, engines, armament, navigation, radio, radar, electrical and auxiliary, and the fact that such complex equipage requires highly skilled technical personnel to operate and maintain it. The only manner by which naval aviation can obtain such trained people is to train new recruits to the level of technical ability considered necessary. From the safety viewpoint, naval aviation cannot afford to assign duties connected with aircraft in any way, to untrained individuals. The decision has therefore been made that all aviation enlisted personnel must satisfactorily complete the basic training in the Aviation School of Fundamentals.

One merely has to glance at a modern combatant type of naval

vessel to realize that it is of enormous complexity. In fact, the size and complexity of an aircraft carrier, a battleship, cruiser, destroyer or sub-marine is such that a complete understanding of it is far beyond the capability of the majority of people. The main engines, auxiliaries, offensive and defensive armament, electric and electronic equipment are all equally, if not more, complex, than those of aircraft. The men who are required to operate and maintain such equipment must have technical training equivalent to that given aviation personnel. From the safety viewpoint, the training of shipboard enlisted personnel also is of great importance; such training is almost as essential as it is for aviation personnel.

To illustrate this point, it is desired to relate an incident which occurred recently on an aircraft carrier. An untrained enlisted man, who had been on board the ship only a very short time, turned one small valve up in the super-structure of the ship, just to find out what would happen. The result was that an entire sprinkler system was immediately activated which flooded many compartments with water, which damaged a great amount of extremely valuable and delicate equipment. In similar situations, the turning of one small valve, moving of one lever, or pulling one electrical switch might cause an even more serious disaster, to say nothing of what could happen if a naked flame, such as that of a match or cigarette lighter, were permitted in close proximity to a powder magazine.

Under such circumstances an entire vessel might be destroyed, with tremendous loss of life. Basic occupational training, which would include considerable instruction in safety precautions and proceedings would tend to prevent the possibility of such incidents. The training of all enlisted men in general service ratings, in the fundamentals of their rating group should be of considerable value in the enlisted training program.

There is little doubt that training in basic fundamentals is highly successful and most desirable. But it is extremely expensive in terms of money, time and manpower, as it is now being conducted in the Airman School. It is doubtful that the advantages gained by the operation of a special school for this purpose, as is currently the policy of the Naval Air Technical Training Command can justify the expenditure of funds, time and manpower that is incurred.

It is suggested that it may be unnecessary to allot eight weeks to the training in the fundamentals of a rating group. It seems likely that a part of the current curriculum of the Airman School (Appendix II) can be eliminated without serious loss. Such extensive training as is now being given, while highly desirable, may be a luxury, which the naval service can ill-afford, except in times of absolute necessity, such as that of a national emergency. Many of the subjects which are included in the curriculum, could probably be eliminated or the time alloted to

those subjects considerably reduced, with little or no loss in the end product. For instance 100 hours of the total 320 hours allotted for the entire course, are assigned to instruction in mathematics, layouts and physics. All of this instruction could be eliminated for those students who are not being sent to technical schools, and for those students who are selected for non-technical schools. The time devoted to several other subjects currently being given in the Airman school might be eliminated or the time allotted to them reduced, in a similar manner.

It is believed that a satisfactory course of instruction in the basic fundamentals for any one rating group can be constructed so that it can be given in 50 hours. This would be the equivalent of two fifty minute periods of instruction per day during the last five weeks of recruit training. While this is not sufficient to cover fully all the fundamentals of a rating group, it would be better than no training at all in this area as is the current policy for general service ratings. It is the type of course of instruction which for the purpose of this study , is referred to as Basic Occupational Training. It is fully recognized that the 50 hours course, suggested above, is not equal to the 320 hours of instruction currently being given in the Airman school. It is not considered that it need be. It is believed, however, that in 50 periods of occupational training, for example, a fireman recruit can be given a sufficient amount of training in fireroom and engine room procedures to improve his potential value to the operating forces appreciably. In a like manner, a Hospital

Corps recruit could improve his value, and clerical recruits could be given sufficient training in official correspondence and in filing procedures to improve their potential value.

Basic Occupational Training, as described herein, has been discussed at considerable length with the Commander of the Recruit Training Command. He stated that he considered the proposed plan to be sound, practical and feasible. He further stated that he believed that sufficient periods for the giving of such training could be made available within the current recruit training curriculum (show in Appendix I) with little or no detrimental effect. By reducing some of the time currently allotted to general subjects and drills in the present course, the Basic Occupational Training could be fitted into therecruit training program without increasing the over-all length of the training period. The Commander of the Service School Command also concurred with the concept of Basic Occupational Training. He expressed the belief that such training would not only improve the quality of the recruit graduate but at the same time would, with the added experience gained during the required year of sea duty prior to entry into a service school, greatly improve the quality of the students in the Service Schools.

In order to support the hypothesis that such a proposed course of training in the basic fundamentals of the various rating groups is feasible and can be adopted to the current curriculum of recruit training, a schedule has been prepared and is attached to this study as Appendix III. Such a schedule would meet the requirements of the Basic Occupational Training in that it would permit fifty periods to be allotted to that type of instruction. The Table of Time Allotments for Reduced Lengths of Recruit Training, as given in Curriculum for Recruit Training,[2] was used as thebasis for preparing this schedule. In preparing this schedule, a reduction in time allotted to the various subjects was made only in those subjects in which a reduction occurred in the table in case of a reduced over-all length of recruit training.

In the fifty periods allotted to occupational training by this schedule, thirty could be allotted to the basic fundamentals, ten to safety precautions and ten to the use of hand tools or some similar allocation. The subjects to be included in this training would be dependent on the rating group for which the training is designed. Thus the aviation group might receive the training allocated above; the clerical group might receive thirty periods in Navy official correspondence,

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[2] Bureau of Naval Personnel, Curriculum for Recruit Training, NAVPERS 90103, Restricted, (Washington D. C. - 1947) pp. 160-163.

language and procedures, ten periods in the filing system, and ten periods in typing; and the engineering group might receive thirty periods in fireroom and engine room procedures, ten periods in safety precautions and ten periods in the use of hand tools. The actual areas to be covered, subjects to be included in those areas and amount of time to be devoted to each subject, for each rating group should be determined by a separate study, by the Curriculum Section of the Training Division of the Bureau of Naval Personnel. Additional periods might be made available to the various rating groups, by substituting specialized drills that are adopted to that rating group for other generalized drills. Thus the Clerical group might substitute additional periods for typing for some of the seamanship drills, the engineering group might substitute boiler "lighting off" and "securing" drills for signal drill, or the aviation group might substitute survival at sea drills for some of the drills in deck seamanship. Such substitutions are refinements to the proposed course that could be implemented as the course progressed. But the schedule as prepared can be adopted without seriously disupting the current recruit training curriculum. Therefore the proposed Basic Occupational Training is feasible.

The actual administration of the proposed program of occupational training should not present any problems of a serious nature, since there is no necessity for any reorganization of the present recruit

companies. The recruits would remain with their assigned companies and attend all classes and drills together except for the periods assigned to occupational training. For those periods, the company could break up into squads of individuals who are in the same rating group, and marched to the area of instruction, in a similar manner to that carried out by the company at present. Some of the instruction could be conducted in the class rooms that would be made available by the reduction proposed in some of the subjects in the present curriculum, while it might be necessary to conduct others notably the technical subjects, within the Service School area. Additional instructors, especially in the aviation training, would be required, but these could be obtained from the current Airman School, if that school were closed as a result of adopting the proposed training program. In other groups, the instructors that are now used to teach the fundamentals in each rating might be used effectively.

The classification and assignment of recruits to rating groups does not create a serious problem, since all recruits are required to take the Navy basic test battery and have the personal interview under the present recruit training program. The classification and interviewing personnel should be able to classify the recruits effectively to the various rating groups in a more efficient manner than to the specific ratings. They will not be hampered to theextent they are at present by

having to accept the intial classification of recruits who have been enlisted under special procurement programs for a specific rating and by being required to meet the various service school quotas assigned by the Bureau of Naval Personnel.

RATING GROUPS

Each new recruit is assigned a Navy Job Classification number during recruit training, on the basis of his scores in the basic test battery and his personal interview. The various classifications, together with the job description, as determined by job analysis, are listed in the Manual of Enlisted Navy Job Classifications. Each job classification as listed in this publication, possesses its own pattern of aptitudes. And while the patterns of aptitudes may vary considerably for the various jobs, many of the patterns are quite similar in that they may have several individual attributes in common. Those jobs that do have similar patterns of aptitudes may be grouped conveniently into homogeneous groups which frequently are referred to as Job Families.

The Manual of Qualification for Advancement in Rating lists all naval enlisted ratings under twelve major groups. These groups are established on the basis of occupational relationship and organizational cognizance. Thus an Aviation Storekeeper is placed in the Aviation group, rather than the Clerical group; the Construction Electrician is in the Construction group rather than the Electrical group; and the Aviation

Electronics Technician in the Aviation group rather than the Electronics group. The Hospitalman is in the Medical group and the Dental Technician is in the Dental Group. It is evident in the above that organizational cognizance is the primary factor in the above ratings. In most of the other ratings the occupational relationship is the primary factor. Considerable dissatisfaction with the current grouping of ratings has been expressed from time to time, but no positive action has been taken to change it. It is believed that any revision that might be made would have to be a compromise between the two factors, because of the control of expenditure of funds by the various Bureaus of the Navy Department.

Navy Job Classifications for the various rating groups are listed in the Manual of Enlisted Navy Job Classifications under the term Recruit, Potential Striker Codes, which are defined as follows:

> "Recruit, Potential Striker Codes. -- These codes 0010 to 0029, inclusive, have been established to identify recruits who show a marked aptitude for a group of ratings; they will generally be assigned during recruit training."

This general definition is followed with the individual classification code numbers with specific definitions of each of the rating groups and the ratings included within each of the groups. Thus the necessary Navy Job Classifications for the Basic Occupational Training are already in existence.

It is within the concept of the proposed program that each

recruit be assigned a Navy Job Classification in one of these general groups, rather than in a specific rating as is currently done in the case of those selected for immediate service school training. Such classification would be based on the aptitude pattern of the recruit as indicated by the scores attained in the basic test battery , combined with the personal interview. It is believed that an individual can be selected for a rating group, as suggested above, with a greater degree of accuracy than he can for a specific rating. It is only logical to assume that if it is possible to select individuals for rating "A" with a certain chance of success, for rating "B" with a different chance of success, or for rating "C" with a still different chance of success, it would be possible to select individuals for a rating group, which included all of those ratings, with a much greater degree of predictability, provided those ratings were of a similar nature.

OBJECTIVE

The mission and objective of Basic Occupational Training is to improve the potential value of each new recruit who enters the naval service, by giving him training in the fundamentals of the rating group for which he has been classified. In order to carry out this mission, each recruit must be classified in accordance with the pattern of his aptitudes and interests as revealed by his scores on the various tests of the basic test battery and the personal interview. By classifi-

cation within a rating group, rather than a specific rating, the chances of placing each new recruit in the type of work for which he is best fitted are vastly increased. Thus, a secondary objective of Basic Occupational Training is to improve the efficiency of enlisted classification, and as a result, eliminate to a maximum degree the misplacement of personnel. In this manner, not only is the quality of the recruit graduate improved, but the interest and morale of each individual, as well as that of the naval service as a whole, also is improved.

The mission might better be stated as, -- To train the most men, to the maximum extent possible, in the least amount of time and in the most economical manner.

The secondary mission might then be stated as, -- To improve the classific ation and selection of all enlisted personnel of the naval service.

In the case of the Women Accepted for Volunteer Emergency Service, normally referred to as the WAVES, Basic Occupational Training should prove extremely valuable. In many cases it should prove sufficient to prepare them to meet adequately the requirements of the duties which they will be required to perform in the naval service, without additional training in Class "A" schools. Girls entering the WAVES are considerably older than the male recruits and have had considerable more practical experience. The average age of the WAVE

on first enlistment is 20.7 years as compared to 17.7 for the male.

Many of the WAVES have had considerable experience in clerical work and prior to enlisting are capable of typing at much higher rates than required for petty officer rating. Others have had experience in filing, secretarial and personnel work. During fifty hours of training in the basic fundamentals of the clerical group, these WAVES can be given sufficient instruction in the forms and methods used in the Navy and the principles of official correspondence to meet the requirements of the practical situation they will encounter when they report to their first active duty station. Since many of the enlisted WAVES have an initial aptitude and ability for as well as experience in, clerical work, they should be used in that type of work, at least until they have had one year of service at an active duty station andhave had an opportunity to observe the requirements of the various ratings which are currently open to women. In the case of those WAVE recruits who have special aptitudes for aviation or Hospital Corps ratings, Basic Occupational Training should prove equally as adequate as for male recruits.

At the present time 60% of all women that enlist in the Navy are selected for further training in one of the service schools. This represents a much higher percentage than that permitted for male recruits. The majority of ratings for which they are considered qualified are within the Clerical Group, such as Yeoman, Personnelman,

Storekeeper, Teleman, Disbursing Clerk and Journalist, the Aviation Group, such as Aerographer, Aviation Storekeeper, Air Controlman and Training Devices Man or the Hospital Group, such as Hospital Corpsman and Dental Technician. In view of the extensive experience that many female recruits have had in clerical work. Basic Occupational Training in the fundamentals of the Clerical Group should be ample to enable them to fulfill all the duties assigned them at their first duty station in a highly satisfactory manner. To spend from ten to fourteen weeks instructing such personnel in typing , filing and correspondence would be wasteful.

METHOD OF UTILIZATION

In order to train the maximum number of men in the minimum length of time and in the most economical manner, it is suggested that Basic Occupational Training be given at the Recruit Training Centers, as an integral part of the recruit training. This can be accomplished simply by calling the first five weeks of the present recruit training "Basic Recruit Training", and the last five weeks "Basic Occupational Training".

In the current recruit training curriculum (Appendix I), the recruit completes the test battery during the first week of training. The personal interview is given during the fourth week, and by the end of the fifth week, classification and selection have been completed. Had

the classification been conducted, as recommended within this study, i.e., for a rating group rather than for a specific rating, each recruit would be ready to commence Basic Occupational Training, on completion of the fifth week. However, since each recruit is required to perform one week of service work, i. e., serving food, washing dishes and cleaning, the actual start of Occupational Training may be delayed until the start of the seventh week. For practical purposes, such service work can be interspersed throughout the training period as service days, rather than as an entire service week. In that case, Occupational Training could be started during the sixth week.

The offering of Basic Occupational Training during the last half of recruit training does not necessitate any major revision of the current recruit training curriculum. The present curriculum can continue in the same manner as it has been operating, with the one exception, that occupational training in the basic fundamentals of a rating group would be substituted for one, or if possible, two, fifty minute periods of present recruit instruction each day, during the last five weeks. (See Appendix III). During these periods of occupational instruction, those classified in the Engineering Group could receive instruction in fireroom and engineroom procedures, in safety precautions in handling oil, and possibly in the use of hand tools. Those classified in

the Administrative and Clerical Group could receive instruction in official correspondence in the Navy filing system and in the use of Navy forms. Those classified in the Electronics Group could receive instruction in the fundamentals of electricity, in safety precautions and in the use of hand tools. Those classified for aviation could receive instruction in aviation fundamentals, nomenclature, survival procedures, aviation rating structure and some use of hand tools. The Ordnance Group could receive instruction in gunnery and fire control problems, in safety precautions in the handling of ammunition, and some practical work with guns and ordnance equipment. Those classified for the Hospital Group could receive instruction in first aid, medical procedures, and safety precautions. Each rating group could receive instruction in the basic fundamentals of the work in which that group is to be employed.

Basic Occupational Training, as proposed in this study, should prove equally as beneficial to aviation enlisted personnel as to the general service. Such a program may not be considered as an acceptable substitute for the Aviation School of Fundamentals by the Naval Air Technical Training Command, as will be discussed in the following chapter. However, that should in no way detract from its over-all value, since it is designed primarily for the training of general service enlisted men and women. The maximum benefit can be derived from

such a program only if this training is made available and applicable to all enlisted personnel at the Recruit Training Centers, as an integral part of recruit training. But regardless of the acceptance or non-acceptance of the proposed training by the Naval Air Technical Training Command, it is believed that a sufficient improvement in the potential value of general service recruit graduates can be attained from such training to make it highly desirable and valuable for the naval service.

CHAPTER VIII

DISCUSSION OF BASIC OCCUPATIONAL TRAINING

In order that the Navy may carry out the mission assigned to it by Congress in a successful manner, it is mandatory that it maintain its operating forces at the highest peak of efficiency. To do this, it is necessary to maintain a Shore Establishment of considerable size, not only for repair, maintenance and logistic support of the operating forces, but also for purposes of administration. However, the major portion of all personnel (approximately 65%) of the naval service are based on ships, at stations located outside the continental limits of the United States or in operational units such as aircraft squadrons.

For purposes of rotation, duty on board a ship or in an operational unit attached to one of the fleets is termed "sea duty" while duty in the Naval Shore Establishment is termed "shore duty". Since duty on board a ship or in an operational unit of the fleet is considered of primary importance, it has been a traditional policy in the Navy that the first duty assignment for all officers and men be "sea duty".

After completing a tour of duty at sea, the length of which is dependent upon the rank or rate of the individual and on the needs of the service, he may be given a tour of shore duty, which is normally of two years' duration. The sea duty requirement is waived in thecase of WAVES who are not authorized to perform duties on board ship.

On the basis of the above policy, there are no billets (jobs) allocated to graduate recruits (Apprentices) in the Naval Shore Establishment, under the current Personnel Plan. All graduate recruits are expected to go to sea on completion of their recruit training in order that they may complete their apprenticeship, learn their duties and be advanced in rating. That some graduates of recruit training have been, in the past, and are currently, selected for and ordered directly to a service school immediately after completion of recruit training, is a matter of expediency. It has been considered necessary in order to meet the needs of the forces afloat.

Since all recruits are normally required to perform sea duty on completion of recruit training, and since the greater percentage of enlisted personnel are in the operating forces, the training at the Recruit Training Centers concentrates on preparing all recruits for that type of duty. (See Appendix I).

Basic Occupational Training, as proposed in this study, is based primarily on improving the quality of recruit training in order

to increase the potential value of a recruit so that he may be better qualified to assume his duties in an operating unit of the fleet. In the following discussion of the proposed training, the major portion of the reasoning will be presented in terms of its applicability and relationship to duty in operational units of the fleet.

The amount of improvement in the quality of recruit graduates that can be expected as a result of this training, depends on the amount of occupational training given and probably is in direct proportion to it. The amount of occupational training that can be allotted to each recruit is dependent on the time and the funds that are available for such training. Where ample time and funds are available for training pruposes, a special school of fundamentals, such as that currently in use in aviation technical training undoubtedly would prove highly beneficial to all enlisted personnel. Normally, however, time is an essential factor and funds are so limited that the establishment of such a school is considered impractical for general service personnel. Therefore Basic Occupational Training has been proposed in this study as a practical means of giving instructions in the basic fundamentals of thevarious rating groups within the time and funds allocated for recruit training.

In attempting to estimate the the probable success of such training, it has been found most difficult to obtain a criterion which

can be defended in all instances. As stated in the report of the AIR MAN SCHOOL STUDY,[1] which was recently conducted at the Naval Air Technical Training Center, Memphis, Tennessee:

> "The choice of criteria to be used as an index of "success" or "failure" presented something of a problem inasmuch as none could be found that could be defended beyond a certain point. The one selected and used in this study was the final average of the trainees in both AN (P) School and the Class "A" schools. The weakness in the use of this criterion lies essentially in two facts (1) that there is no evidence of a conclusive nature to indicate that a trainee who makes a high final average while under instruction will be a correspondingly high quality technician with an operating unit, (2) the final averages in the several schools are computed, in part, from highly subjective "practical" grades assigned to trainees by instructors."

The Research and Development Section in the Air Training Command of the United States Force has encountered a similar problem as stated in Reaearch Bulletin 48-4,[2]

> "VALIDATION CRITERIA. While they are admittedly not an ideal criterion, technical school grades will be utilized as the initial criterion for test validation and revision. An Analysis of these school grades has been initiated, and eventually it is planned to carry out an extensive research program in the technical schools in order to yield data which will enable the schools to improve

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[1] Naval Air Technical Training Center, Airman School Study, (unpublished; Memphis, Tenn., undated), p. 1.

[2] Air Training Command, U. S. Air Force, Restricted, Research Bulletin 48-4, Development of the Airman Classification Test Battery, (Hdqrs., Air Training Command, Barksdale Air Force Base, La., November, 1948), p. 22.

> their evaluative procedures. The aviation psychologists in the Strategic Air Command are now engaged in developing adequate on-the-job criterion measures for all major technical specialties. When such measures become available, it will be possible to validate tecnhical school grades as well as the airman tests. It is hoped that validation patterns for on-the-job success will parellel those for school success. However, if they do not, the discrepencies will necessarily have to be resolved in favor of on-the-job criteria in the case of combining weights for aptitude indexes, and modifications in technical schools curricula and grading procedures will be in order."

The reasons for the difficulty in obtaining a positive on-the-job criterion for measuring the degree of success or failure of training, as expressed in the above studies, lie in the fact that (1) recruit graduates and service school graduates are distributed throughout the naval service in widely separated areas of the world on completion of training, making a close comparison of abilities difficult to the degree of virtual impossibility; (2) the work assigned to the individual graduates varies over a wide range of content as well as degree of difficulty; (3) methods of measurement are at present entirely subjective in character; and (4) rating officers vary in their rating experience, characteristics and ability to a considerable extent. Thus, to date, no sound objective type of criterion has been discovered by which the success, degree of success or failure of training can be measured.

In lieu of such a criterion, the final average grades of

of graduates of the Airman school were compared with the final average grades of the same students in aviation service schools, Class "A". Of the 491 students in the initial experimental control groups, 381 were selected for service schools, Class "A", at the Naval Air Technical Training Center, Memphis, Tennessee. Of this group 377 successfully completed the required courses in Class "A" schools. The correlation between the final average grades of this group in Class "A" schools and their final average grades in the Airman school was .60 for the overall group. For the individual schools the following corrected correlations were obtained:

Aviation Electronic Technician School.......	.64
Aviation Metalsmith School..................	.81
Aviation Mechanic School....................	.75
Aviation Electricians School................	.87
Other Aviation Technical Schools...........	Number of students were too small to be considered as having any significance.

From the high correlations found between the final averages of these aviation Class "A" service schools and the final averages of the Airman school, as shown above, it may be concluded that there is a definite relationship between success in the Class "A" schools. Such correlations are substantial evidence of this fact.[3]

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[3] OpCit., pp. 12-13.

The Aviation Photographer's Mate school is the only service school, Class "A", in the naval service where general service ratings and aviation ratings are trained together in the same curriculum. This school, which is located at the Naval Air Station, Pensacola, Florida, is used to train the Photographer's Mate ratings, as well as the Aviation Photographer's Mate ratings. Thus an opportunity exists at this school to obtain a direct comparison between those students who have completed a school in basic fundamentals (Airman school) and those who have not. The following data was therefore compiled from the records of that school for the period of 1 July, 1949 to 30 June, 1950.

School	No. Students	Setbacks	%	Failures	%
Aviation Photographer's Mate	501	41	8.2	8	1.6
Photographer's Mate	229	54	23.6	8	3.5

This data indicates that the graduates of the basic school of fundamentals show a definite superiority over those who are not, since it shows 15.4% fewer setbacks, and 1.9% fewer failures.

Whereas it would be much more conclusive evidence if an objective criterion, such as work performance in operating units of the fleet, was available for evaluation of graduates of a school of basic fundamentals, it is believed that, lacking such a criterion, there is sufficient evidence adduced herein to substantiate the belief that graduates of such a school are superior to non-graduates. On a similar

basis of reasoning, it can be considered highly probable that a graduate of the proposed Basic Occupational Training would be superior to the present recruit graduate who has not had such training.

Upon completion of recruit training, each graduate is advanced in rating from Recruit to Apprentice. If he is assigned to engineering duties, he becomes a Fireman Apprentice; if assigned to general service duties, an Airman Apprentice; if to Hospital Corps duties, a Hospitalman Apprentice; and if to construction duties, a Construction man Apprentice. If he is selected for service school training in a specific rating, he is given an apprentice rating in the same manner. He retains the apprentice rating until he completes the service school or fulfills the requirements for promotion to the next pay grade, thus completing his apprenticeship.

Upon completion of service school training, he is assigned a special designating symbol and Navy Job Classification, to indicate that he is a qualified striker for the specific rating in which he has been trained. Thus a graduate of the Electrician Mate school is designated an Electrician's(Fireman Apprentice) Mate; a graduate of the Electronics Technician school is designated an Electronics Technician' Seaman Apprentice, or an Electronics Technician Seaman, if he has completed his apprenticeship during his work at the school. Since six months is considered the minimum period in which the appren-

ticeship can be completed, only students of those service schools whose courses are of greater than six months' duration are able to complete their apprenticeship during the course of instruction. They are required to pass the examination and meet all other requirements for advancement in rating, regardless of the fact that they are under instruction.

The recruit graduates, who are sent direct to sea duty on completion of recruit training, are advanced in rating as soon as they have completed their apprenticeship and fulfill all the other requirements for advancement in rating. A Seaman Apprentice is thus promoted to a Seaman, and a Fireman Apprentice to a Fireman. At the same time, they may be given a designating symbol and a Navy Job Classification, as soon as they have fulfilled the requirements and demonstrated their proficiency for a specific rating. Thus a Seaman Apprentice may become a Yeoman Seaman Apprentice then advanced to a Yeoman Seaman, or a Fireman Apprentice may become a Boilerman Fireman Apprentice who can advance to Boilerman Fireman. This can be readily accomplished through in-service training. Basic Occupational Training would tend to promote this type of advancement to a maximum degree.

Under current procedures, all recruits receive exactly the same training, regardless of the fact that they may have been

given different apprentice ratings according to the type of work for which they are considered best fitted. From the standpoint of training, any one of the recruit graduates could perform the work and duties of any other one, i. e., the Seaman Apprentice could perform the duties of the Fireman Apprentice; the Airman Apprentice, the duties of the Hospital Apprentice; or the Constructionman Apprentice, the duties of the Seaman Apprentice. Yet different rating fields and Navy Job Classification Codes are assigned by the classification personnel, solely on the basis of scores attained in the test battery and the personal interview.

If recruits are classified for the various branches of the naval service, and assigned Navy Job Classification Codes, on the basis of the classification and test procedures, they should be given varied training during the recruit training period. Such training should be in the areas of work for which they have been classified. The Naval Air Technical Training Command does this by giving all aviation enlisted personnel training in the Airman School, on completion of recruit training.

Training in the basic fundamentals of the other groups of general service ratings could and should be given to all enlisted recruits in a manner similar to that given all aviation enlisted recruits. The only practicable place that such training can be given

is at the Recruit Training Centers. The only time that it can be given effectively is during recruit training, as an integral part of that training.

Once a recruit has received Basic Occupational Training in the rating group for which he is classified, it is believe that he will be better prepared and more qualified to report on board ship for duty and perform the duties assigned him. He is given a Navy Job Classification and normally will be assigned duties in the area of work for which he is considered best fitted. He is already a square peg that is prepared to fit a square hole, because he is placed in the type of work which he is best qualified to perform. He will have the opportunity to select the specific rating in which he can plan his career and will have the maximum chance of success and personal satisfaction in that rating.

Recruit Graduate Availability to the Operating Forces .

If the potential value of the recruit graduate is increased appreciably, as concluded above, by virtue of having had occupational training, he can be ordered directly to duty in operating units of the fleet on completion of recruit training and be able to carry out the duties assigned him within his rating group in a fairly capable manner. It would then be unnecessary to continue the current policy of sending large numbers of recruit graduates directly to service

schools for further training prior to ordering them to duty with the operating forces.

Currently approximately twenty per cent of all recruits are assigned to aviation duties, either on the basis of classification or by direct procurement. A large percentage of the remaining recruits, if considered eligible, are sent directly to a service school for further training. As a result, the operating forces receive very few men directly from recruit training, and such men as they do receive are of the lower caliber. The services of those sent to service school, though sorely needed in the operating forces, are lost for an additional period of ten to forty-two weeks, dependent on the length of the various service schools.

There was a period, in recent years, when the forces afloat were having to conduct operations with less than fifty per cent of their authorized complement, while the service schools were filled to overflowing with competent graduate recruits, most of whom were high school graduates. At the same time, there were over four thousand Aviation Apprentices (Airmen) waiting to be processed through the Airman school, some of whom had to wait for about six months to enter this school. The operating forces were crying for men, yet there were thousands of men available, all tied up in the school training program.

If the operating forces could be assured of receiving service school graduates in a continuous flow, equal to the number of recruits that it would get from recruit training if no service school students were selected, it would be highly satisfactory. In other words, if the rate of flow of service school graduates were to equal the rate of flow of graduates from recruit training, the operating forces would receive technically trained personnel in the same numbers that it would receive recruit graduates. Theoretically, such a flow can be attained, but in actual practice, this does not happen. Short periods of enlistment, extended periods of school courses due to failures, set-backs, emergency leaves and illnesses, e xtremely long courses of instruction, hardship discharges and discharges for disciplinary reasons, all have an effect on the availability of service school graduates to the forces afloat. In many cases during recent years, individuals have enlisted in the Navy, completed recruit training, attended a service school immediately thereafter and been discharged from the Navy by virtue of expiration of enlistment without having performed a single day of duty in a unit of the operating forces, or in a naval shore establishment. Many others performed only one or two months of such duty, while a large number of others served less than six months in the operating forces. The service school training, in these cases, was practically a complete loss to the Navy even though it may

have been a contribution to civilian education.

Although the current minimum four year enlistment has partially overcome the possibility of a repetition of such a procedure, the proposed Basic Occupational Training, combined with a service school entrance requirement of a minimum of one year of sea duty, would entirely prevent the occurence of such a situation. It would reduce to a minimum the service school training of enlisted men and women who have no interest in or desire for a career in the naval service. In so doing it would produce a great economy in the Navy Enlisted Training Program.

Quality of the Service School Candidate.

The present training policy is to select individuals during the early part of recruit training for further training in service schools. This selection, as previously described, is based on the scores attained in the test battery and the personal interview, or on a special recruit procurement program. The rate of selection of candidates is controlled in such a manner as to fill the numerical quotas established by the current Navy Enlisted Training Plan.

Having been selected for further training in a service school the recruit graduate is ordered directly to that school on completion of his recruit training. He does not have an opportunity to learn what the Navy is all about, what the rating for which he has been selected

entails, or whether or not he is going to like the naval service sufficiently to make it a career.

Within the service school, the individual studies for a Part, the specialized rating, with little knowledge of the Whole, or how the Part, which he is studying, will relate to the Whole. He is assumed to be qualified for the course of study he is undertaking, on the basis of intelligence and aptitude, as shown by the scores he attained in the test battery. But he may be qualified, on this same basis, for any one of several of the service schools. And though qualified by meeting the test requirements of the school for which he was selected, he may not be highly motivated for the type of work involved in the rating for which students of that school are prepared, in which case, the rating for which he is studying may not be the best placement for him.

In an impromptu interview with Riche, R.W., MASN, (Seaman striker for Machine Accountant), U.S.N., an enlisted man at the Naval Air Station, Glenview, Ill., the following viewpoints were expressed:

(1) Most enlisted men have no special interests as to the type of work they desire, when they first enlist in the Navy. Some have an idea of the broad field such as Electronics, aviation, or clerical, but it is very vague in their minds.

(2) Many recruit graduates who are sent to a service school immediately on completion of recruit train-

ing become dissatisfied to such an extent that they deliberately fail in their studies in order that they may be ordered to a unit of the operating forces.

(3) Fleet personnel, those men who have served in operating units of the fleet, were the outstanding students in the service school, from the standpoint of the other enlisted men in the school. They appeared to have a better understanding of the overall Navy than the recruit graduates, and also a definite goal in attending school.

(4) All men in the naval service would be better if they were to have at least one year of service in an operating unit of the fleet prior to being sent to a service school.

This interview expresses the thoughts of only one enlisted man, however, casual conversations with other enlisted men in recruit and service school training, as well as in operating units of the fleet, brought out substantially the same ideas. While this cannot be considered as conclusive evidence, or even a fair sample on which to base sound reasoning, it is probably indicative of the general thought throughout the naval service regarding the subject of service school training. It tends to support the initial hypotheses, that (1) enlisted men and women should be selected and classified for a rating group rather than a single specialized rating and (2) all recruit graduates should be ordered to duty in operating units of the fleet prior to being sent to a service school. The proposed plan for Basic Occupational Training as a part of recruit training would help to prepare men for duty in the operating forces, in the rating group

for which they were classified, during the interim period between recruit and service school training. And, as a result of such training, men should prove more receptive to on-the-job training in the operating forces.

It was stated previously that it is believed that a graduate of Basic Occupational Training would be a better blue jacket than the present graduate recruit because of training in the basic fundamentals of the rating group for which he was selected and classified. This has not been proven except on the basis of the degree of success of graduates of the Airman School in the aviation service schools.[4] However, it is logical to assume that it is true, solely on the fact that some training, regardless of the quantity, is better than no training. In order to prove the value of Basic Occupational Training conclusively it will be necessary to conduct an experiment using test and control groups. These groups can be given the proposed training, then evaluated over an extended period of time in comparison with controlled groups of graduates of the present recruit training, using some measure of work performance as an objective criterion.

If a person is given training in the basic fundamentals of

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[4] Naval Air Technical Training Center, Airman School Study, (unpublished Report, 1949), pp. 1-13.

the rating group for which he has been classified and is assigned duties, in an operational unit of the fleet in that rating group, as normally will be the case, he should be better able to perform those duties in an effective manner. He then will have the opportunity to observe the work of the various specialized ratings within his rating group. He can learn the duties, responsibilities and requirements of each of those ratings by observing them as they actually exist in the fleet, instead of by reading books or listening to lectures on the subject. He will have more competent advice and assistance in planning his career in the naval service. He will be able to see the Navy in actual operations and can make a decision as to whether he wishes to make the Navy his career, under more favorable circumstances. If he decides against making the Navy a career, it would be wasted effort on the part of the Navy to send him to a service school for further training. He can receive sufficient training on the job to permit him to perform all the duties assigned him during his first enlistment in an adequate manner. That this is possible is clearly illustrated by the following compilation of data giving the results of the fleet-wide competitive examinations for advancement in rating, given in the Atlantic Fleet in March 1949 and October 1949. The successful candidates in these examinations are broken down by rating and by graduates and non-graduates of Class A Service Schools.

Rating	March 1949		October 1949	
	Grads.	Non-Grads	Grads	Non-Grads
Aviation Boatswain	31	87	40	61

Rating	March 1949		October 1949	
	Grads	Non-Grads	Grads	Non-Grads
Air Controlman	1	0	6	7
Aviation Mechanic	55	122	546	208
Aviation Electrician	14	12	131	87
Aviation Photographer	16	8	55	10
Aerologist	10	18	20	23
Aviation Storekeeper	10	32	91	44
Aviation Electronicsman	28	20	52	48
Aviation Metalsmith	44	54	158	22
Aviation Ordnanceman	31	48	47	174
Aviation Electroncs Technician	22	0	34	28
Boiler Tender	1	317	35	418
Construction Driver	4	6	9	0
Construction Mechanic	10	8	7	15
Construction Electrician	2	12	13	12
Commissaryman	48	267	73	356
Damage Controlman	3	57	11	100
Disbursing Clerk	36	22	73	35
Draftsman	4	1	6	6
Dental Technician	16	2	10	1
Electrician	166	198	376	215
Engineman	81	137	87	187
Electronics Technician	8	2	12	20
Fire Controlman	45	39	118	87
Gunner's Mate	2	349	18	176
Hospitalman	122	9	155	19
IC Electrician	10	12	37	16
Instrument Man	2	1	4	6
Journalist	1	0	11	3
Lithographer	4	5	0	9
Machine Accountant	0	11	0	10
Metalsmith	5	42	30	142
Machinist Mate	35	199	133	369
Machine Repairman	9	12	58	22
Musician (School Required)	37	0	36	0
Photographer	6	10	14	21
Printer	0	5	2	14
Pattern Maker	1	3	4	3
Personnelman	12	48	52	61
Parachute Rigger (School Required)	9	0	2	27

Rating	March 1949		October 1949	
	Grads	Non-Grads	Grads	Non-Grads
Quartermaster	1	191	15	292
Radarman	99	61	221	188
Radioman	127	93	352	128
Steward	54	425	40	414
Ship's Serviceman	11	100	19	169
Storekeeper	45	142	165	167
Sonarman	68	12	58	10
Surveyor	2	1	5	2
Steel Worker	4	0	1	1
Training Device Man	3	3	6	6
Teleman	8	26	12	34
Torpedoman	10	66	10	47
Utilities Man	4	0	1	4
Yeoman	140	276	457	296
TOTALS	1522	4083	3965	5413

From the above data it is clearly indicated that enlisted men and women can be trained in a highly satisfactory manner on the job. From the figures it would appear that such training is much more satisfactory than service school training. This is explained by the fact that most of the non-graduates of service schools had greater length of service, i. e., they required a longer period of time to advance in rating, and the fact that there were a greater number of non-graduates than graduates that took the examinations for advancement. A study of examinations results of 524 graduates of service school and 901 non-graduates (fleet-trained) examinees for advancement to petty officer rating in the Pacific Air Force in 1949 amplifies this information:

1. 63% of service school graduates passed the exam.

2. 44.4% of fleet-trained men passed the exam.
3. The average amount of service, in months, required to pass the exam for advancement to petty officer:
    a. School graduates.................. 38.66 months
    b. Fleet-trained..................... 67.17 months

This study was conducted at a Naval Air Technical Training Center, Memphis, Tennessee.

While enlisted personnel can be trained in a satisfactory manner on the job, as shown by the above data, it requires about a third longer time to train them in this manner than it does in a service school. Therefore, where time is of theessence, service school training should be utilized to the maximum extent possible. At the same time, it must be recognized that, more than 75% of the service school graduates, who were sent directly from recruit training, did not re-enlist in the Navy on completion of their first enlistment. It therefore would appear to be quite a waste of time, money and manpower, during periods other than of open hostilities to give service school training to those individuals who have no desire to make a career of the Navy. With limited budget for training purposes, the Navy can ill afford to waste training on men who are not interested in remaining in the service.

It is recognized that one of the secondary missions of the Armed Forces is to train and educate the young men of the nation in order that they may be better citizens. However, service school training is not

believed to be a requisite for filling this mission. The training received on-the-job is considered ample to meet this requirement. Service school training normally should be reserved for career service personnel. The naval service needs technically trained personnel too badly to expend school training on those individuals who have no idea or desire of remaining in the Navy.

If an enlisted man or woman learns to like the Navy and life in the Navy, he will be happy and contented in the service. If he then selects a specialized rating within the rating group for which he was classified, he will be happy and satisfied in that rating. If he works at a job within that rating group for some length of time he will become familiar with the job, the material and equipment connected with that job, the tools with which he has to work on that job and what is to be accomplished on that job. As previously stated, there is no substitute for on-the-job training. It is at this stage that an individual should be sent to service school.

If an individual is sent to service school at this time, he should be able to obtain the maximum benefit from the formalized instruction, since he will have a good idea of why he is going to school, what he should learn at the school, and what he will do on completion of the school training. He should be able to accomplish more while at the school because he has a definite goal toward which he can work. In this

manner, the Naval service will gain a good man; one who is interested in the Navy and enjoys it; and one who is interested in the specialized field of work in which he is working and likes it.

Career Planning.

Basic Occupational Training should prepare each man, who is entering the Naval service for the first time, for ship-board duty in the rating group for which he is considered best fitted. On completion of this training, each graduate should be ordered to duty in an operating unit where normally he will be assigned duties in accordance with his classification. He then will have a period of time in which to orient himself to the routine and life of the Navy and to select a rating within his rating group in which he desires to specialize and plan his career. He will have ample opportunity to observe and learn the characteristics of the various ratings within the rating group for which he is classified. He also will have competent assistance in an operating unit at all times during this period to help, advise and guide him in the planning of his career. He can prepare himself for further school training by educational courses and training-on-the-job, so that when he is ordered to a service school he will be able to obtain a maximum benefit from the training given at that school.

If, during his apprenticeship on board ship, he becomes interested in any rating within the group in which he is classified, and dem-

onstrates sufficient ability in that rating, he can have his classification changed accordingly. If he becomes interested in a type of work which is outside his rating group he can change his classification or designation to that rating group on board ship with little or no difficulty.

However, in the case of the recruit graduate who has been selected and classified for a specific rating and sent directly to service school to be trained in that rating, as is currently done, there is little or no chance to change his classification. On completion of a service school, a graduate is given a classification and designating symbol in that rating, and once classified in this manner it is difficult to have the designation changed, as well it should be. If the Navy spends the time and money to train a man in a service school, it should expect service from that man in the rating for which he is trained. Thus it can be seen that under these circumstances there is little chance for a man to plan his own career. His career in the Navy is planned for him from the early phase of recruit training.

It should be apparent then that the proposed plan of Basic Occupational Training, combined with the minimum service school entrance requirement of one year of duty in the operating forces, should prove to be a vast improvement from the aspect of career planning.

Aviation Technical Training Program.

It is believed that Basic Occupational Training can replace the present Airman School, provided the proposed course of instruction for the aviation rating group is considered an acceptable substitute for that course, by the Naval Air Technical Training Command.

The elimination of this school would represent an appreciable economy to naval aviation, since the cost of operating and maintaining a separate school for this purpose is quite high. At the same time, it would free considerable space, which is badly needed by the Naval Air Technical Training Command for the expansion of the aviation primary and advanced service schools. In view of the current world situation, the rate of training of aviation technical personnel has had to be increased extensively. To meet this vast expansion it has been necessary to expand the physical facilities of the Naval Air Technical Training Center to such an extent that an additional station has had to be reactivated at Jacksonville, Florida. The elimination of the Airman School should go a long way toward fulfilling the urgent needs of the Technical Training Command for additional facilities.

Basic Occupational Training in aviation fundamentals at the Recruit Training Centers would also eliminate the transfer of all of the Airman Recruit graduates from the Naval Training Centers at San Diego, California, Great Lakes, Ill., and Bainbridge, Md. to Memphis Tenn., or to Jacksonville, Fla. This would not only be a great economy

in time and money, but would tend to relieve a severe strain on the already over-taxed transportation facilities of the nation. A rough estimate of the financial saving that could be effected by this procedure would be approximately five million dollars per year. This estimate is computed on the basis of transporting 1200 men per month from each of the Recruit Training Centers to Jacksonvile, Fla. at the current travel cost of $0.06 per mile.

If on the other hand, the Naval Air Technical Training Command does not consider that the proposed Basic Occupational Training is a satisfactory substitute for the Airman School, and prefers to retain the present school in operation, an alternate measure is proposed. Under this proposal the recruits who are selected as Airman Recruits could be transferred from the Naval Training Centers on completion of the Basic Recruit Training period and sent directly to the Airman School where they could complete their recruit training and Airman training simultaneously. Such a procedure would result in a net saving of five man-weeks per aviation recruit. At the current rate of training of aviation personnel this would represent a saving of approximately twenty-five hundred men per year, which could be transferred as a net gain to the operating forces. If the quota of aviation enlisted personnel is doubled as it is anticipated in the immediate future, it would amount to 2500 additional men being available to the fleet per year.

At the same time, the transfer of aviation recruits from the Training Centers, whose physical facilities are currently severely over-taxed, would permit the training of approximately 1500 recruits per month above the number now being trained. This would prove highly advantageous and valuable to the overall naval service.

MORALE:

In considering any major change or development in a training program, the effect of such a change on morale must be given thorough consideration. Any change that might tend to lower morale can not be considered except in cases of dire necessity. It is believed that the proposed Basic Occupational Training will have adefinite tendency to raise the morale of enlisted personnel throughout the entire naval service to a higher level. This belief is based on the following factors:

a. The graduate of Basic Occupational Training, as proposed herein, should be better qualified to carry out his duties on board ship when he first reports for duty, as a direct result of the training he has received in the basic fundamentals of the rating group for which he is classified. He should have more self assurance and be better prepared for his job, and as a result his morale should be higher.

b. The graduate of Basic Occupational Training will be normally sent directly to sea on completion of his training. This fulfills the desires of a vast majority of recruits since the

basic reasons that most of them give for enlisting in the Navy are (1) to get away from a situation at home and (2) to travel. To retain recruits in school on completion of recruit training tends to act as a depressant of morale, in many cases.

(c) Sending all recruit graduates to duty in operating units immediately on completion of recruit training will tend to improve the morale of the enlisted men in the operating forces. Ship board personnel become disturbed at times when they are operating a ship with only fifty per cent of its complement on board and know that at the same time the service schools are filled to capacity with graduates recruits who have never been to sea. The Navy enlisted man is a tireless worker. When the occasion demands he will work sixteen to twenty hours a day or more if necessary. But he hates to think that other less experienced men are sitting contentedly ashore in a school some place, for only seven or eight hours a day, with evenings and week ends free for liberty, while he is working hard for such long hours at sea. It is believed that the morale of fleet personnel would be greatly improved if all recruit graduates were ordered directly to operating units of the fleet.

(d) The morale of the recruit graduate should show a noticeable improvement also, by virtue of the increased motivation

for career planning which should result from Basic Occupational Training.

Disadvantages and Possible Obstacles to Basic Occupational Training.

Interruption in Continuity of School Training.

Many professional educators have expressed the belief that it is highly detrimental to an individual to interrupt the continuity of his school training. On this basis it has been considered advantageous for new recruits, most of whom have enlisted in the Navy immediately after leaving school to continue on into a service school provided that they are in all respects eligible. It has therefore been recommended that all qualified recruit graduates should be ordered to a service school on completion of recruit training in order that their study habits and rate of learning will not have an opportunity to lapse.

While there may be some justification for this belief, statistics at the Ohio State University [5] show that the GI students who have returned to school after having served several years in the Armed Forces during World War II, have advanced their general education by approximately two years, by virtue of their experiences during the war. This would tend to disprove the theory expressed above. Therefore it

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[5] L. L. Love, Performance Of Veterans (Journal of Higher Education, Vol. XVIII, 1947), pp. 95-98.

is not believed that interrupting the continuity of schooling should be considered as a serious reason for not adopting the proposed plan of Basic Occupational Training.

Reduction In Time Allotted to Present Courses in Recruit Training Curriculum.

In order to implement the proposed program of Basic Occupational Training it will be necessary to reduce the time allocated to some of the courses in the current recruit curriculum (Appendix I). Such a reduction might be a cause for objection by the Director of Training. However, such an objection should not be of such a serious nature that it cannot be overcome in a satisfactory manner.

The mission of recruit training is to indoctrinate young men and women into the routine of the naval service, in order to effect a smooth transition from civilian life to that of the Navy. This is accomplished to a great extent by having the recruits live and work together continuously for the period of recruit training. The subjects which are studied during this period of time are of relatively minor importance. Individuals who have lived independently within the confines of their own communities for their entire lives must learn how to live and work with other individuals within the regulations and the routine of the Navy. Individual aspirations and goals must be cast aside in favor of group participation and team work. Individual effort

and competition must be replaced by team effort and competition.

The team spirit and group participation are promoted by the various drills conducted during recruit training. Normally these drills are of a physical nature such as military drill under arms, parades, seamanship drills, fire fighting, gunnery loading drills and including barracks and clothing inspections. Emphasis throughout all such drills is placed on the recruit company efficiency rather than that of any one individual. Such exercises are of major importance throughout recruit training.

Individual ability and competition are entailed in those parts of recruit training which are taught by lectures and books. The subjects taught in these parts of the training are graded on an individual basis. Each recruit is graded individually on his efficiency in these subjects by paper and pencil tests. Whether these subjects are naval history, Navy customs and traditions, or physics, arthimetic, electricity or chemistry has little bearing on the end product. It is only necessary that the subjects taught in this manner be balanced so as not to have too much study in any one subject.

To reduce the time allotted to some of the subjects which are included in the current curriculum and allot that time to occupational training which is related directly to the various rating groups,

should not detract from the end product to any noticeable degree. It is believed that such replacement will have a definite tendency to improve the potential quality of the recruit graduate. The subjects which are to be reduced and those which should be substituted for each separate rating group should be the subject of a separate study by the Curriculum Section of the Bureau of Naval Personnel. Such a study should not create any serious difficulty. It should be noted that the publication, Curriculum for Recruit Training, includes a Table of Time Allotments for Reduced Lengths of Recruit Training. This table can serve as an excellent guide for use in determining the subjects which can be reduced and the amount of reduction for the purpose of initiating the proposed Basic Occupational Training. A Curriculum which will permit the allocation of 50 periods of Basic Occupational Training has been prepared in this manner as an example, and is included as Appendix III.

Substitution of Basic Occupational Training for Airman School.

It is recognized that the substitution of Basic Occupational Training for Airman School might meet strenuous objections by the Aviation Training Command, since it is a considerable reduction in length from the current course of the Airman School. However the economy that can be effected by such a substitution is believed to be such that it should be sufficient to off-set this objection. And if the Aviation Training Command does not concur in such a measure as the

proposed plan for Basic Occupational Training, an alternate plan has been included in this study which will still result in considerable economy in time and manpower.

The requirement of a minimum of one year of duty in the operating forces for entrance to a service school, as proposed herein, is not considered as important to aviation enlisted personnel as it is to those in general service. As pointed out in previous discussion, the working conditions and equipment of aviation can be duplicated almost entirely in the training situation, whereas it is a practical impossibility to do so for the general service. Therefore an objection to this part of the proposed plan may be entirely justified, even though it is believed that such a requirement would prove highly beneficial to all aviation enlisted men and women as well as to those in general service.

The plan for Basic Occupational Training is proposed mainly for the benefit of the general service enlisted personnel since the Aviation Training Command already has such a program in effect on a greater scale than that proposed herein. Therefore, any objection which the Aviation Technical Training Command might have to the proposed program need not affect other than aviation enlisted personnel.

Cooperation of Commanding Officers of Operating Units of the Fleet.

The greatest obstacle to be overcome in successfully effecting the proposed plan is to gain the full cooperation of the commanding

officers of all operating units of the fleet. The plan cannot work successfully unless and until this cooperation is obtained.

At present, as well as in the past, there has been a definite tendency on the part of Division Officers, Executive Officers and Commanding Officers of operating commands to hold on to enlisted men who have proved to be outstanding in their organization. They will fill quotas for service schools only if those quotas are assigned on a mandatory basis, by higher authority. Under such circumstances, the quotas are filled in a most reluctant manner, not with the best and most eligible men, but with the least eligible ones, frequently those who have proved to be the trouble makers. As a result, the enlisted men who are sent to service schools from the fleet often give rise to disciplinary problems in school.

There has been, and still is, very good reason for such action by the officers afloat. The most eligible recruit graduates have been selected for school training at the Recruit Training Centers and sent directly to service schools, according to current policy. The operating forces do not receive the better recruit graduates until they have completed or failed the course at theservice school, and when they receive them under such circumstances they are only able to retain them for short periods of time, due to expirations of enlistment. Considerable time and effort is spent in operational commands in train-

ing new recruit graduates on the job. After they have been trained up to a point they can effectively carry out their jobs without direct supervision, the Division Officers want to retain them in order that their Divisions may operate with greater efficiency. To continue to train men for specific jobs, only to have them ordered to school, is most disheartening and discouraging. Therefore, they are reluctant to recommend those men whom they have successfully trained, who are able to perform their duties in a capable manner, and will recommend only those men who are unable to learn on the-job or who have been in trouble constantly, for further training in service schools.

The above attitude has been especially prevalent in recent years during which the units afloat have been forced to operate with a minimum complement. Under such conditions each man had to be able to carry his share of the work load. Trouble makers could easily be spared because they were normally unable to carry their share of the work and they only tended to create more work and more problems. Division Officers and Commanding Officers did not feel that they could spare a single good man to go to school. They were undoubtedly sound in such judgement but at the same time they wre shortsighted.

As described in Chapter IV, the Navy Enlisted Training Plan is designed to meet the overall requirements of the naval service for

trained enlisted personnel. The monthly numerical quotas for each of the various service schools are derived from this plan. In order that the plan may be effected successfully it is imperative that each quota be filled with eligible candidates. Because of the failure in the past of the operating units of the fleet to meet these quotas, eligible candidates for service schools have been selected from the recruit graduates and obtained by direct procurement under special recruiting programs.

To effect the proposed plan for Basic Occupational Training, this failure to send their best and most eligible men, on the part of fleet commands, to meet the service school quotas, presents a serious obstacle. However, it is not believed to be of such a degree of seriousness that it cannot be coped with successfully. It is believed that if fleet commands are given a thorough explanation of the proposed program they will be in full accord with it and will give it their whole-hearted support and cooperation.

If operating units of the fleet receive graduates of a recruit training which includes the proposed Basic Occupational Training, immediately on completion of that training, it is believed that the Commanding Officers of those units will be willing to assign the better candidates for service schools to meet the mandatory quotas that are assigned. It is necessary that the school quotas be assigned on a mandatory basis in order that the Enlisted Training Plan may continue

to operate successfully. The Service Commands, (those Fleet Commands that are responsible for the distribution of enlisted personnel) can facilitate the successful operation of the proposed plan for Basic Occupational Training by closely controlling the assignment of personnel. When mandatory quotas for service school candidates are assigned to an operating unit of the fleet, replacement personnel from recruit and service school graduates made available by the Training Centers should be ordered to report immediately to that operating unit. With the present type of personnel machine accounting equipment such a procedure should be comparatively simple.

CHAPTER IX

CONCLUSIONS AND RECOMMENDATIONS

The Navy consists fundamentally of (1) the Operating Forces, (2) the Shore Establishment, and (3) the personnel required to perform the functions which are essential to the effective operation and maintenance of those organizations. The Operating Forces perform the missions that are assigned to the Navy as a part of the Department of Defense. The actual number of individual units of ships and aircraft assigned to the Operating Forces is dependent upon the strength and appropriations authorized by Congress, as dictated by the trend of international and world affairs and reflected in the national and foreign policies of the United States. The Naval Shore Establishment maintains, repairs, supports and administers to the Operating Forces. It varies in size proportionately to the strength of the Operating Forces. The numerical strength of enlisted personnel is established by the same policy, on the basis of furnishing sufficient personnel to operate and maintain both organizations. As a result of changes in the trends, there may be frequent revisions in the authorized strength of the Navy.

To meet these fluctuations and to overcome the extensive turnover of enlisted personnel due to attrition from normal causes and from other distracting factors outside of the naval service, it is necessary that a regular recruiting program be conducted. The continual influx of new recruits from this program, combined with the rapid development of equipment of naval warfare which demands increased skill and technical knowledge to operate and maintain, make it essential that the Navy establish and maintain a continuous enlisted training program. Such a program consists of recruit training, technical training in service schools and on-the-job training.

Recruit training is of primary importance to the naval service. Its mission is to effect a smooth transition of each new recruit from the status of a civilian to that of a Navy enlisted man or woman. It is considered essential in order that recruits may learn to live an work together as a team rather than as individuals. It is equally necessary that they learn the routine of life in the Navy.

Service schools are provided to train enlisted men and women in the technical qualifications of most enlisted ratings. As naval equipment increases in complexity, training must be increased proportionately. This training may be given either in service schools or on-the-job. Enlisted personnel can be trained successfully on-the-job, even for the most highly technical ratings. However, it requires approximately one

third greater time than if conducted in service schools. Since time is normally an important factor in a training program, some training must be conducted in service schools. And while it might be desirable to train all enlisted recruits who are considered qualified, in service schools, as is done in a national emergency, such a procedure is costly and ordinarily cannot be carried out within the budgetary limitations established for training purposes.

It therefore becomes necessary to conduct some of the training in service schools and the remainder on-the-job. The amount of training that can be given in school is directly dependent upon the funds allocated for that purpose. Regardless of the type utilized all training must be directed toward meeting the quotas of the current Enlisted Training Plan, in order that the naval service will have personnel trained, or in training, to meet the requirements for such personnel as they arise.

All recruits are given the basic test battery and a personal interview during recruit training. On the basis of the scores obtained in this process, and the judgement of the interviewers, they are assigned Navy Job Classifications. At the present time, those recruits who meet the minimum aptitude requirements for entrance into service schools are sent directly from recruit training to a service school. This procedure results in misplacement of many individuals and a

considerable waste of training.

It is proposed in this thesis that (1) recruits can be selected and classified during recruit training for a rating group of similar ratings rather than for a single rating and, (2) graduate recruits be sent to duty in operating units of the fleet for a minimum period of one year, prior to considering them eligible for service school training in a specialized rating. During this period they can learn about each individual rating within the rating group for which they are classified. They can improve their knowledge by on-the-job training in that rating, in the operational unit with which they are serving. As a result they will be better students when they attend a service school. Under such procedures, the incentive toward following the Navy as a career should be increased appreciably.

Studies conducted by the Naval Air Technical Training Command have indicated that graduates of the Aviation School of Fundamentals are superior in performance to individuals who have not attended such a school. As a result, completion of the Airman school has been made a requirement for all enlisted men and women in aviation ratings. This requirement was considered mandatory because of the extremely high degree of technical skill and knowledge involved in the operation and maintenance of modern aviation equipment, and the necessity for maximum safety in all aviation operations.

The various types of equipment installed on the modern naval vessel are of a complexity equal to or greater than that of aircraft, and an equal degree of skill and technical knowledge is necessary for the operation and maintenance of such equipment. There is an equal necessity for maximum safety in the operation of surface forces. On the basis of this reasoning the argument therefore was presented that if training in the basic fundamentals is considered necessary for and made available to aviation enlisted personnel, it should be considered necessary for and made available to general service enlisted personnel. It was pointed out that if training in basic fundamentals were to be given general service, as well as aviation enlisted personnel, the most practical place to give it would be at the Recruit Training Centers, and the most appropriate time for it to be given would be during the recruit training, as an integral part of that training.

It was recognized that it would not be practical to conduct such an extensive training program on a scale similar to that now conducted in the aviation technical training program, due to limitations of funds, time and physical facilities that could be made available for that purpose. Basic Occupational Training therefore, was proposed to provide the needed training in basic fundamentals of the various rating groups to all enlisted personnel within the limits of money, time and space that are currently available.

As conceived in this study, Basic Occupational Training is

the term applied to the second phase of recruit training. The first phase, i. e., the first five to six weeks of recruit training, could be called Basic Recruit Training, in order to differentiate the two phases. During the first phase, recruits would be given the basic test battery and personal interview. On the basis of the scores obtained in the tests of the basic battery and the result of the personal interview, recruits would be classified in the rating group for which they were considered best qualified , and in which it was believed they could make the best progress. They would be assigned Navy Job Classifiwations on this basis. In other respects, the training during this phase would be the same as is currently given (Appendix I).

During the second phase, i. e., Basic Occupational Training, the recruits could continue to receive instructions and drill in the same subjects as they do at the present time, except that it would be slightly reduced in quantity. In addition to this training, they would receive approximately two hours of instruction or drill per day in the basic fundamentals of the rating group for which they were classified. A sample schedule, which would meet all the requirements of the proposed program, showing the subjects in which the time currently allotted could be reduced and the amount of such reduction, has been prepared and is shown in Appendix III. Such a schedule would make fifty periods available for occupational training. The subjects suggested for inclusion within these fifty periods are (1) basic fundamentals, (2) safety

precautions, and (3) use of hand tools. However, these subjects should be dependent on the rating group for which the training is given. This should be made the subject of a separate study and evaluation by the Curriculum Section of the Training Division of the Bureau of Naval Personnel. The sample curriculum as given in Appendix III was prepared to show that Basic Occupational Training is feasible and that it can be adopted to the current Recruit Curriculum with little or no difficulty.

Basic Occupational Training for all enlisted personnel not only is highly desirable but it is also practicable. If such aprogram is adopted it will produce improvements in (1) the quality of the Recruit graduate, (2) the availability of recruit graduates to the operating forces, (3) the quality of the service school candidate, (4) the morale of school, as well as, fleet personnel and (5) the aviation technical training program.

On the basis of this study and evaluation of the Navy Enlisted Training Program, it is recommended that:

(1) Experimental Control Groups of recruits be given occupational training at the Recruit Training Centers during recruit training as an integral part of that training.

(2) Basic Occupational Training be evaluated by a comparison of the graduates of this training with the graduates of reg-

ular recruit training, using actual on-the job performance in operating units of the fleet as the criterion.

(3) The proposed plan for Basic Occupational Training be submitted to the Fleet Commands for study, comment and recommendations.

(4) The Curriculum Section of the Training Division of the Bureau of Naval Personnel, by separate study and evaluation determine:

(a) the subjects of the present recruit curriculum that can be reduced, (b) the amount of reduction in each subject, (c) thenew subjects to be taught in each of the rating groups under the heading of Basic Occupational Training, and (d) the number of periods to be allotted to each new subject.

If the results of therecommended study and evaluation of the proposed program validate the conclusions arrived at in this study, and if favorable comments are received from the Fleet Commands, it is further recommended that:

(1) Basic Occupational Training for all rating groups be established at the Recruit Training Centers, as an integral part of recruit training.

(2) All enlisted recruits be given Basic Occupational Training in the rating group for which they are considered most qual-

ified and in which they have the best prospect of success.

(3) Consideration be given to the elimination of all special Recruit Procurement Programs.

(4) All recruit graduates be ordered directly to duty in the operating forces, on completion of recruit training.

(5) A minimum period of one year of duty in the operating forces be reinstated as a mandatory requirement of eligibility for entrance to all service schools. Waivers should be granted only in outstanding cases, or where personnel of the aviation, Hospital Corps, Construction Corps or Musician groups are concerned.

(6) Consideration be given to (a) the elimination of the Airman School, or (b) the transfer of Airman Recruits to the Airman School on completion of the first phase of recruit training, i. e., Basic Recruit Training.

(7) Consideration be given to the transfer of Hospitalman, Constructionman and Musician Recruits to their respective schools of fundamentals on the completion of the first phase of recruit training, in a similar manner to that recommended for Airman Recruits.

APPENDIX I

RECRUIT TRAINING CURRICULUM

Area I, Recruit Indoctrination includes the following subjects:

		Hours
1.	Introduction to Life in the Navy	2
2.	Navy Ranks and Ratings, and Navy Training	11
3.	Pay, Allotments and Insurance	3
4.	Religious Life in the Navy	7
5.	Naval Customs and Courtesies	10
6 .	Naval Discipline and Articles for the Government of the Navy	16
7.	Citizenship	10
8.	Naval History and Traditions - Indoctrinational Film	20
9.	Navy Organization	2
10.	Security	1
11.	Navy Clothing	10
12.	First Liberty	2
13.	Recruit Leave	1
14.	Indoctrination Review and Test	3

Area II, Military Training includes the following subjects:

1.	Close Order and Physical Drill with Arms	50
2.	Sentry Training	2
3.	Extended Order Exercises	3

Area III, Seamanship includes the following subjects:

1.	Types, Characteristics and Parts of Ships and Naval Terminology	6
2.	Shpboard Organization	2
3.	Marlinspike Seamanship	6
4.	Deck Gear, Anchoring and Mooring, Steering and Sounding	6
5.	General Drills	6
6.	Watches	2
7.	Boat Seamanship	3
8.	Cleaning, Upkeep of Equipment and Painting	4
9.	Visual Signaling	1

10.	Duties of the Lookout	3
11.	Fire Fighting	10
12.	Seamanship Review and Test	2

Area IV, Ordnance and Gunnery; Small Arms includes the following subjects:

1.	Small Arms Training	4 Days
2.	Introduction to Ordnance - The 5"/38 Caliber Gun	1
3.	5"/38 Caliber Loading Drill	1
4.	40 MM Guns and 20 MM Guns	1
5.	Ammunition and General Ordnance Safety Precautions	2
6.	Use and Care of the Gas Mask	1
7.	Ordnance Review and Achievement Test	1

Area V, Physical Training, Personal Hygiene and First Aid includes the following subjects:

1.	Physical Training Activities	30
2.	Swimming and Sea Survival	10
3.	Personal Hygiene	5
4.	First Aid	5

Area VI, Morning Quarters, Publication of Orders, Personal Inspections, Bag Inspections, Competitions, and Parades includes the following:

1.	Morning Quarters	33
2.	Bag Inspections	12
3.	Personnel Inspections	14

Area VII, Major Administrative Requirements includes:

1.	Forming Incoming Recruits into Companies	1 to 3 Days
2.	Classification Tests and Interview	5
3.	Final Achievement Examination	3

Miscellaneous Administrative Requirements:

1.	Dental Availability	4
2.	Inoculations	3
3.	Identification Pictures	1
4.	Haircuts and Dermatological Inspections	11
5.	Company Pictures	1
6.	Drawing Pay	4
7.	Moving from Primary to Advanced Unit	1
8.	Draw Small Stores	1

A recapitulation of the current Recruit Training curriculum is given below:

Area I	Recruit Indoctrination	98
Area II	Military Training	55
Area III	Seamanship	51
Area IV	Ordnance and Gunnery; Small Arms	31
Area V	Physical Training, Personal Hygiene, and First Aid	50
Area VI	Morning Quarters, Publication of Orders, Personnel Inspections , Bag Inspections, Competitions, Parades	59
Area VII	Administrative Requirements	34
	Company Commanders' Review Periods	24
	TOTAL	402

APPENDIX II
AVIATION SCHOOL OF FUNDAMENTALS
(AIRMAN SCHOOL)
CURRICULUM

	Hours	Hours
Phase I, Aircraft Familiarization:		49
1. Introduction	6	
2. Safety Precautions	4	
3. Land Based Planes	17	
4. Sea Planes	4	
5. Cockpit Checkout and Starting Engines	11	
6. Recognition	7	
Phase II, Survival and Emergency Equipment:		22
1. Equipment	10	
2. Survival	5	
3. Aircraft Fire Fighting	7	
Phase III, Basic Skills and Related Information:		185
1. Mathematics	40	
2. Layout	30	
3. Physics	30	
4. Hand Tools	76	
5. Interphones	2	
6. Aircraft Gunnery	7	
Phase IV, Aviation Rate Familiarization:		64
1. Individual Aviation Rates, Discussion of each of 12 Ratings	5 1/3	
TOTAL		320

The above curriculum represents a recapitulation of the basic curriculum as presented in "Course of Study for Airman School, (Class P)", published by the Naval Air Technical Training Center Air Station, Memphis, Tennessee, April, 1950.

APPENDIX III
RECRUIT CURRICULUM
ALOTMENT OF TIME FOR REDUCED LENGTHS OF RECRUIT TRAINING

		Current 10 Wks	Proposed 10 Wks
AREA I	Recruit Indoctrination	98 Periods	82 Periods
Topic 1.	Introduction to Life in the Navy	2	1
Topic 2.	Navy Ranks and Ratings and Naval Training; Educational Opportunity in the Navy	11	9
Topic 3.	Pay, Allotments and Insurance	3	3
Topic 4.	Religious Life in the Navy	7	7
Topic 5.	Naval Customs and Courtesies	10	10
Topic 6.	Naval Discipline and the Articles for the Government of the Navy	16	15
Topic 7.	Citizenship	10	10
Topic 8.	Naval History and Traditions	20	12
Topic 9.	Navy Organization	2	1
Topic 10.	Security	1	0
Topic 11.	Navy Clothing	10	9
Topic 12.	First Liberty	2	2
Topic 13.	Recruit Leave	1	1
Topic 14.	Indoctrination Review and Test	3	2
AREA II	Military Training	55	48
AREA III	Seamanship	51	44
Topic 1.	Types, Characteristics and Parts of Ships and Naval Phraseology	6	6
Topic 2.	Shipboard Organization	2	2
Topic 3.	Marlinspike Seamanship	6	5
Topic 4.	Deck Gear, Anchoring and Mooring, Steering and Sounding	6	4
Topic 5.	General Drills	6	5
Topic 6.	Watches	2	2
Topic 7.	Deck Seamanship	3	3
Topic 8.	Cleaning, Upkeep of Equipment, and Painting	4	3
Topic 9.	Visual Signaling	1	1
Topic 10.	Lookout and Telephone Talking	3	3
Topic 11.	Seamanship Firefighting	10	10
Topic 12.	Seamanship Review	2	1

AREA IV	Ordnance and Gunnery and Small Arms Training		
Topic 1.	Small Arms Training	24	21
Topic 2.	5"/38 Caliber Gun	1	1
Topic 3.	5"/38 Caliber Loading Drill	1	0
Topic 4.	The 40 mm and 20 mm Guns	1	1
Topic 5.	Ammunition, Ammunition Handling and Safety Precautions	2	2
Topic 6.	Use and Care of the Gas Mask	1	0
Topic 7.	Ordnance Achievement Test	1	0
AREA V	Physical Training, First Aid, and Physical Hygiene	50	45
Topic 1.	Physical Training Activities	30	25
Topic 2.	Swimming and Sea Survival	10	10
Topic 3.	Personal Hygiene	5	5
Topic 4.	First Aid	5	5
AREA VI	Morning Quarters, Publication of Orders, Personnel Inspections, Bag Inspections, Competitions and Parades	59	50
AREA VII	Administrative Requirements	34	34
I.	Forming Incoming Recruits into Companies		
II	Administering Classification Test and Interviews	5	5
III.	Final Achievement Tests	3	3
IV.	Miscellaneous Administrative Requirements	26	26
AREA VIII.	Basic Occupational Training	0	50
Topic 1.	Basic Fundamentals of Rating Group	0	30
Topic 2.	Safety Precautions	0	10
Topic 3.	Hand Tools	0	10
	(Instruction within this area can vary according to the rating group Engineers cold have fire room		

procedured etc. Aviation would have nomenclature, rating schools and practical work, etc. Subjects of instruction in this area should be the subject of separate study.)		
COMPANY COMMANDER'S REVIEW PERIODS	24	24
TOTAL	402	402

The allotment of time to the various subjects to the Recruit Curriculum, as proposed herein is based on the Table of Time Allotments for reduced lengths of Recruit Training as given in "Curriculum for Recruit Training", NAVPERS 90103, Restricted, Prepared by Standards and Curriculum Section, Training Division, Bureau of Naval Personnel, December, 1947.

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